Proceedings

Royal Musical Association, International ...

IN CONNECTION WITH THE INTERNATIONALE MUSIKGESELLSCHAFT.

PROCEEDINGS

OF THE

MUSICAL ASSOCIATION

FOR THE INVESTIGATION AND
DISCUSSION OF SUBJECTS CONNECTED WITH THE
ART AND SCIENCE OF MUSIC.

FOUNDED MAY 29, 1874.

TWENTY-NINTH SESSION, 1902-1903.

LONDON:
NOVELLO AND CO., LIMITED, 1, BERNERS STREET, W.
1903.

CONTENTS.

RULES AND REGULATIONS.

Passed at Seven Special General Meetings, held on February 7 and April 3, 1876, on January 6, 1879, on December 6, 1886, on June 2, 1890, on January 7, 1895, and on October 15, 1901.

OBJECTS AND CONSTITUTION.

1. This Association is called the "Musical Association," and is formed for the investigation and discussion of subjects connected with the Art, Science, and History of Music; and is intended to be similar in its organisation to existing Learned Societies.

It is not intended that the Association shall give concerts, or undertake any publications other than those of their own Proceedings, or the Papers read at their Meetings.

MEMBERS.

2. The Association shall consist of practical and theoretical musicians, as well as those whose researches have been directed to the science of acoustics, the history of the art, or other kindred subjects.

Any person desirous of being admitted into the Association must be proposed by two members. Foreigners resident abroad and distinguished in the Art, Science, or Literature of Music may be nominated by the Council for election as Honorary Members of the Association.

Elections will take place by ballot of the members present at any of the ordinary meetings, and one adverse vote in four shall exclude.

No newly-elected member shall be entitled to attend the meetings until the annual subscription be paid.

SUBSCRIPTION.

3. The annual subscription to the Association is one guinea, which shall become due on the 1st of November in each year.

Any member *may*, upon or at any time after election, become a life member of the Association by payment of a composition of £10 10s. in lieu of future annual subscriptions, but in addition to any annual subscription previously paid or due from such member. Such sums shall from time to time be invested in legal security in the names of Trustees, to be appointed by the Council.

The same Trustees shall have power to hold other Capital accumulated by, or accruing to, the Association.

Any member intending to resign his membership shall signify his wish by notice in writing to the Secretary on or before the 31st of October, otherwise he shall be liable for his subscription for the ensuing year.

MEETINGS.

4. An ordinary meeting shall be held on the second Tuesday in every month, from November to June inclusive, at 5 P.M., when, after the despatch of ordinary business, Papers will be read and discussed, the reading to commence not before 5.20 P.M.

5. An annual general meeting of members only shall be held at the end of the financial year, to receive and deliberate on the Report of the Council, and to elect the Council and officers for the ensuing year.

6. Special general meetings may be summoned whenever the Council may consider it necessary; and they shall be at all times bound to do so on receiving a requisition in writing from five members, specifying the nature of the business to be transacted. At least one week's notice of such special meeting shall be given by circular to every member, and ten members present at any general meeting shall constitute a quorum.

7. Every member shall have the privilege of introducing one visitor at the ordinary meetings, on writing the name in a book provided for that purpose, or sending a written order.

COMMUNICATIONS.

8. Papers proposed to be read at the meetings may treat of any subject connected with the Art, Science, or History of Music, Acoustics, and other kindred subjects.

Papers will be received from or through any member of the Association.

Experiments and performances may be introduced, when limited to the illustration of the Paper read.

9. All communications read will become thenceforth the property of the Association (unless there shall have been some previous arrangements to the contrary), and the Council may publish the same in any way and at any time they may think proper.

REPORTS.

10. A Report of the Proceedings of the Association, including the Papers read or abstracts of the same, and abstracts of the Discussions, shall be printed and distributed to the members as soon as possible after the end of each session.

This Report will be arranged and edited by the Secretary, under the direction of the Council.

COUNCIL AND OFFICERS.

11. The management of the affairs of the Association shall be vested in a Council, consisting of a President, Vice-Presidents, and ten ordinary members of the Association, with the assistance of the following Honorary Officers, viz., a Treasurer, Auditors, and Solicitor.

The election to the above offices shall be by ballot at the annual general meeting of members.

The President, Vice-Presidents, Honorary Officers, and five ordinary members of the Council shall retire every year, but shall be eligible for re-election.

There shall be a Secretary to the Association, and the Council shall have power to create such other offices as may appear necessary for conducting routine business. They shall have power to assign emoluments to the offices specified in this clause, and to make appointments to the same,

provided that all steps taken under the several heads of this clause be reported for information of members at the next ensuing monthly meeting, as well as in the annual report.

12. At the annual general meeting, the Council shall present a balloting list, showing the names of the persons whom they propose for the offices of President, Vice-Presidents, Honorary Officers, and ordinary members of Council for the ensuing year. A copy of this list shall be given to each member present.

In voting, each member may erase any name or names from the balloting list, and may substitute the name or names of any other person or persons whom he considers eligible for each respective office; but the number of names on the list, after such erasure or substitution, must not exceed the number to be elected to the respective offices as above enumerated. Those lists which do not accord with these directions shall be rejected.

The Chairman of the meeting shall cause the balloting papers to be collected, and after they have been examined by himself and two scrutineers, to be appointed by the members, he shall report to the meeting the result of such examination, and shall then destroy the balloting papers. Auditors shall be appointed at the annual general meeting by the members, and the statement of accounts shall be sent by the Treasurer to the Auditors, and be remitted by them to the Secretary in time to enable the Council to judge of the prospects of the Association, and to prepare their report in accordance therewith.

13. The Council and officers shall meet as often as the business of the Association may require, and at every meeting three members of Council shall constitute a quorum.

ENACTMENT OR ALTERATION OF RULES AND REGULATIONS.

14. No rules and regulations can be enacted, altered, or rescinded, except at a special meeting of members summoned for the express purpose, the summons stating distinctly and fully the matter to be brought under consideration.

THE MUSICAL ASSOCIATION.

(IN CONNECTION WITH THE INTERNATIONALE MUSIKGESELLSCHAFT.)

FOR THE INVESTIOATION AND DISCUSSION OF SUBJECTS CONNECTED WITH THE ART AND SCIENCE OF MUSIC.

FOUNDED MAY 29, 1874.

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*Wyndham, Hon. Hugh A.

Yeatman, Harry O., Esq.

Those who are also Members of the Internationale Musikgesellschaft are indicated by an * to their names.

THE MUSICAL ASSOCIATION.

TWENTY-EIGHTH SESSION, 1901-1902.

REPORT.

THE ANNUAL GENERAL MEETING WAS HELD ON TUESDAY, NOVEMBER 11, 1902, AT THE ROYAL COLLEGE OF ORGANISTS:

Sir FREDERICK BRIDGE, M.V.O., in the Chair.

The following REPORT *of the Council was read by the Secretary:—*

THE Council beg leave to present their Report of the 28th Session.

Papers have been read by Mr. J. E. Borland, Mr. W. W. Starmer, Mr. Joseph Goddard, Mrs. Henry Newmarch, Dr. Charles Maclean, Mr. C. Welch, Mr. R. R. Terry, and Mr. J. S. Shedlock. To these writers, as well as to all those who assisted by giving illustrations, the Council offer their best thanks. The papers, with the discussions thereon, have been printed in the annual volume of Proceedings.

It is with deep regret that the Council have to record the death of Dr. James Higgs—an original member of the Musical Association, to the Proceedings of which he had contributed two papers. He acted as Hon. Secretary for the period of five years, and, on relinquishing this office in 1883, was elected a Vice-President.

The Council regret to have to record also the death of Mr. H. B. Briggs, well known for his enthusiastic labours in the study of mediæval music.

A considerable number of new members has been elected during the year, and the strength of the Association has been well maintained. The Council trust that Members generally will endeavour to assist them by bringing the objects and scope of the Association under the notice of those professional and amateur musicians who do not at present belong to it.

The monthly meetings have been generally well attended.

The Council take this opportunity to state that their standing resolutions or bye-laws not having hitherto been codified, a sub-committee consisting of Mr. Otto Goldschmidt (Chairman), Dr. C. Maclean, and Mr. W. W. Cobbett, was appointed on June 7, 1901, "to collate from the three volumes of the minute-book of the last twenty-seven years the past resolutions of the Council having a permanent effect, and to report the result to the Council, with such remarks as they thought fit." This sub-committee presented their report on July 19, 1901. It contained a historical survey of the administration of the Association as deduced from the minute-books, certain recommendations regarding the treatment of the Council bye-laws and other matters connected with Council management, and a recommendation for the partial alteration of the Rules and Regulations to bring them into conformity with existing practice. The Council, after full deliberation, passed resolutions embodying the recommendations of the sub-committee on July 31, 1901. The change of the Rules and Regulations was effected at a General Meeting of Members on October 15, 1901.

The Annual Dinner took place at the Holborn Restaurant on November 12, 1901, the newly-elected President—Sir C. Hubert H. Parry—being in the chair. There was a large gathering of Members and guests, and the occasion was entirely successful.

In accordance with the Rules, the President, the Vice-Presidents, and five Ordinary Members of Council—Mr. W. W. Cobbett, Mr. F. G. Edwards, Mr. J. A. Fuller Maitland, Dr. McNaught, and Mr. F. Cunningham Woods—retire from office.

The Council submit the following nominations:—The President, Vice-Presidents, and Hon. Officers as before. As Ordinary Members of Council: Mr. W. W. Cobbett, Mr. F. G. Edwards, Mr. J. A. Fuller Maitland, Dr. McNaught, and Dr. F. G. Shinn.

The adoption of the Report was moved by Mr. T. L. Southgate, seconded by Mr. W. Harrison, and carried unanimously.

THE Hon. Treasurer presented the Audited Balance Sheet. On the motion of Mr. George Langley, seconded by Mr. C. A. Barry, this was passed unanimously.

The Election of Officers resulted as follows:—the President, the Vice-President, and the Hon. Officers were all re-elected; Mr. W. W. Cobbett, Mr. F. G. Edwards, Mr. J. A. Fuller Maitland, and Dr. W. G. McNaught were re-elected Ordinary Members of Council, and Dr. F. G. Shinn was elected an Ordinary Member of Council.

The Meeting closed with a vote of thanks to the various Officers for their services during the year.

THE MUSICAL ASSOCIATION.

Income and Expenditure from November 5, 1901, to November 5, 1902.

Dr.		£	s.	d.	£	s.	d.
1901.							
Nov. 5.	To Balance in Hand				33	11	2
	„ Subscriptions —						
	„ 1899-1900 (1)	1	1	0			
	„ 1900-1901 (5)	5	5	0			
	„ 1901-1902 (142)	149	2	0			
	„ 1902-1903 (18)	18	18	0			
					174	6	0
	„ Life Subscription (1)				10	10	0
	„ Dividends				11	15	2
	„ Sale of Proceedings				12	15	8
	„ Receipts for Dinner, Nov., 1901 (77 at 5/-)				19	5	0
	„ Internationale Musikgesellschaft account:—						
	Subscriptions 1899-1900 (1)	0	10	0			
	„ 1900-1901 (3)	1	10	0			
	„ 1901-1902 (74)	37	0	0			
	„ per Bank —	3	0	0			
	„ 1902-1903 (16)	8	0	0			
					50	0	0
					£312	3	0

CLIFFORD B. EDGAR,
Hon. Treasurer.

Cr.	£	s.	d.	£	s.	d.
By Printing and Stationery:—						
Novello & Co., Ltd. (Circulars)	2	6	0			
„ (Proceedings)	73	14	0			
„ (Sundry Printing)	3	10	2			
C. F. Thorn	22	11	9			
W. H. Dawe	1	13	0			
				103	14	11
„ Expenses of Session, 1901-1902:—						
R. C. O. (Hire of Hall) ...	8	8	0			
Austen (Refreshments) ...	8	18	0			
Broadwood (Pianos)	1	11	6			
Dr. Walker (Reporting) ...	8	8	0			
Bates (Vocalists)	3	6	0			
				30	11	6
„ Postages (Secretary, £13 14s.; Treasurer, 12s.) ...				14	6	0
„ Bank Expenses				0	1	3
„ Secretary's Salary				30	0	0
„ Holborn Restaurant (Dinner)				19	15	0
„ A. Hunt & Co. (Nest of Drawers)				3	5	0
„ Law Charges				1	1	0
„ Breitkopf & Haertel (I.M.G. Circulars) ...				5	10	0
„ Treasurers of I.M.G.				42	0	0
„ Balance in Hand				61	18	4
				£312	3	0

Examined and found correct, November 7, 1902

D. J. BLAIKLEY,
C. BOWDLER, } *Hon. Auditors.*

NOTICE.

Papers or short communications for the Monthly Meetings are received from or through Members; these and suggestions as to suitable subjects and capable writers will be gladly considered by the Council.

Members are desired to make the Association and its objects as widely known as possible. The Secretary will forward Prospectuses and Nomination Forms on application.

Members preferring to do so can pay their subscriptions through their Bankers. A form for this purpose may be obtained of the Secretary.

Any change of address should be promptly notified to the Secretary, as occasional complaints of the non-receipt of books and notices are usually traceable to either old or insufficient addresses.

SPECIAL NOTICE.

At a Special General Meeting held on February 13, 1900, the following Resolution was passed: "That the Council be and is hereby authorised to add to the title of the Musical Association on its publications and prospectuses till further notice the words 'In connection with the Internationale Musikgesellschaft.'"

The English Committee of the latter Society (International Musical Society) consists of: Sir Hubert Parry, Bart. (President), Mr. Otto Goldschmidt (Vice-President), Sir Frederick Bridge, Dr. Cummings, Mr. W. H. Hadow, Sir Alexander Mackenzie, Dr. Maclean, Mr. Fuller Maitland, Dr. McNaught, Professor Niecks, Professor Prout, Mr. Barclay Squire, Professor Sir C. Villiers Stanford, Mr. Sedley Taylor. The Society publishes a monthly Journal and quarterly Magazine, employing four languages, with the object of promoting interchange between different countries of information and opinions concerning the history, art, and science of music.

Owing to the long-standing position of the Musical Association, members thereof are admitted as members of the International Musical Society on very special terms, which can be ascertained from the Secretary of the Musical Association.

NOVEMBER 11, 1902.

CHARLES MACLEAN, ESQ., MUS.D., VICE-PRESIDENT, IN THE CHAIR.

HUNGARIAN MUSIC OF A THOUSAND YEARS.

BY ILONA DE GYÖRY.

THE reason why music appeals to every side of our nature is that music itself is the result of the activity of the whole nature of a man. Being called forth by the travail of thought, feeling, and will, its effect is the stirring of the thoughts, emotions, and volitions of the listener. It reminds me of one of the natural phenomena in my Oriental country —those mysterious springs that well forth from unknown depths and penetrate into mysterious depths again; the strength which enabled them to break their way from the dark, also enables them to find their path into new depths— the greater the warmth that gave existence to the well, the brighter it sparkles, the higher it rises, and the deeper it sinks again.

To the music that stirs our emotions,—the gentle and the mighty ones—that awakens our thoughts, either calling to dreams or to deeds, to music like this we do not listen merely because it moves *our* soul, but because we feel that in another soul there also had vibrated a hundred chords of feeling before this harmony was created.

And thus, when it is the music of a whole nation we contemplate, we must feel deeply moved by the idea that it is an invisible host of thoughts and feelings which hovers around us. The music is the people; on hearing real, national music of the purest style we can nearly divine the character of their history; and on learning their history and national features we can guess the character of their music. The Spanish dance melodies, which unite in themselves the flourishing metallic sound of war trumpets as much as the

most languishing, dreamy tunes, melting away in sensual softness, could only have their origin in a country the soil of which has not brought forth anything more abundantly than the oak-leaved garland of warlike deeds and the glowing garnet flower of love. It is the music of a people whose conception of life is expressed in their proverb: In war, in chase, in love, a thousand troubles are worth one pleasure.

Guerra, caza y amores
Por un placer mil dolores.

What we hear in the Russian melodies is the awe-stricken whispering, the stifled sobbing of a people of slaves, which never dares to raise its eye, its hand, its soul—and, in the song, not even its voice.

And is not the Italian barcarolle the real expression of the mind of a people living in a country blessed by all the treasures of nature? It is the song of a happy, lazy, artistic, inactive, dreaming people. Much feeling, little will; much effusion, few deeds. Their national philosophy awakens our envy and our pity at the same time. *I mali che non hai considera come altrettanti beni e sarai lieto* (the misfortunes thou dost not have, consider as so many pieces of good luck, and thou wilt be satisfied).

Then again, the French menuet, the gavotte, and the pavane. This music, consisting of tiny filigree motives, where the small content is worked out so gracefully, cannot belong to any other nation than one which in art never uses great masses, partly because it cannot manage them, and partly because it does not need them. It is the maker of Sèvres china figures, of lace, of gold filigree—a small mass of material, much invention in its use.

And if the circumstance that national history and national music are closely connected make it *possible* for me in the case of another nation to speak about *history* when I have to speak about *music*, in the case of Hungary's music it is not merely possible but essential that I should do so, because in our life it seems indeed as if Polyphemia (the Muse of song) had tuned her lyre according to the events that her sister Kho (the Muse of history) imaged in stone.

To explain music is always a dry, ungrateful task. To do so to musical people is superfluous; to unmusical ones, useless. When music undergoes scientific analysis, it is as if a flower were dissected into petals and stamens; the more we dissect it the less is it a flower. And I feel that the more musical those are to whom I speak, the better I may trust to them the task of deciphering, solving and understanding our strange music. I will not tear the petals of the flower, but I wish to show you the soil from which this

flower has sprung, just as there springs the cornflower in our fields, simply, with a natural wild grace, without nursing, without cultivation.

And the soil that gave life to the Hungarian music is indeed like the soil that gave birth to the cornflower. The Hungarian nature is somewhat like the clod of our country; the colour rather dark, and its material heavy, the surface is not very smooth, not very soft either; thorny sometimes when deprived of the loving care of the cultivator's hand. If an icy wind touch it unmercifully, all at once it freezes to stony hardness; but if heaven yield to it the benefit of warm rain and of sunshine, at once it melts to softness, when it reveals by means of its marvellous productivity what richness of contents is slumbering in it, and to him who knows how to manage it, this Hungarian soil, like the Hungarian heart, yields treasures of pure gold.

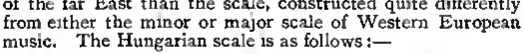
Before giving the character-sketch of our music I would mention that the nations of Europe may, with respect to their music, be divided into two main groups, Western and Eastern. Quite apart from all other characteristic differences, we have to remember that while in the Western group we notice a strong tendency towards musical cosmopolitanism, in the Eastern music the tendency is in the opposite direction, that of pronounced individuality. The Western group of styles is better known, the Eastern one we meet with in Russia, Turkey, Roumania, Transylvania, Hungary, Croatia, and Slavonia.

Musicians have often emphasised the strange fact that the music of nations who often had to bear subjugation generally ran in the minor key, as if their songs voiced the melancholy of a people deprived of freedom. And indeed we cannot deny the fact on hearing the music of Finland, Poland, Ireland, and Southern Russia among the European nations; and among the Oriental races we notice that the music of the southern part of Hindustan is all written in the minor key, in contrast with the music of the Northern tribes that came down from their hills to conquer the dwellers of the plains. And Egyptologists point out the fact that on the wall pictures which illustrate the hieroglyphs, we find quite different musical instruments in the time of Egypt's independence than during the epoch of subjugation; the first ones being flourishing metallic trombones, and the latter pealing bugles.

The history of our thousand years accounts more than anything else for the deepest melancholy in our music. But even the most superficial knowledge of Hungarian songs reveals to the hearer that there is another strongly contrasting element in it too, a bright, mirthful, flourishing, triumphant one. And indeed it is the presence of

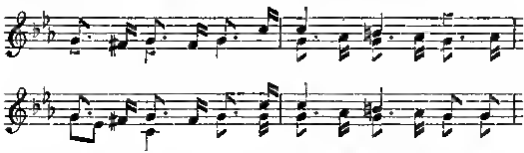
these two opposite features which makes our music different from the Western music as well as from the Eastern. The events which have given our music a note of melancholy we shall see when we take a brief glance at our national history, but as this other bright element of our music has also to be accounted for, we may find its explanation in the relationship of Hungarian music with that of Arabia and Persia.

Nothing shows more clearly that Hungarian music actually unites in itself the deep melancholy of the Eastern European music and also the bright triumphant element of the far East than the scale, constructed quite differently from either the minor or major scale of Western European music. The Hungarian scale is as follows:—

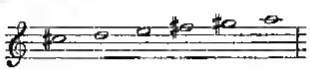


The investigations of musical history are in perfect accord with those of philology. We all know that the Hungarians are a Turanian race, the original home of which was the centre of Asia, where they lived in close connection with the Persians. That the relationship is real is clearly demonstrated by the analogy of *their* religion and *ours*. That dualism of the good and evil gods—Ormuzd and Ahriman in the Persian, Hadur and Armány in the Hungarian creed; even the word denoting deity is strikingly similar —in the Persian language Iztan, and in ours even to-day it is Isten. So, too, are related the names of evil spirits: Dev, ardev, besorchin = dog, ördog, boszorkány. Our decorative art also shows the relationship. We know that the ornamental designs of primitive peoples generally make use of the sacred animals as motives: Assyrian art uses the bull, sacred to Baal, Melchart, or Moloch; Egyptian art employs the scarabeus, the ibis, the ram, and the crocodile; Indian art the elephant, on the back of which the universe rests, and the Ananta serpent, which held the cradle of Brahma, born from a lotus flower. And among all these pagan Oriental nations it is the Persian where we first see the horse; it appears in paintings, in tapestries, in metal work, and is the leading decorative detail of architecture, Persian columns resting on four horses' heads. And the sacred animal of the Hungarian god Hadur is also the horse. All our other ornamental details are the same: the tulip, the pomegranate, carnation, rosemary. And the similarity is more striking still in our poetry. But before pointing out this, we must mention the other opinion maintained by philologists, namely, that the Hungarians' nearest relatives were the Finns. It is quite

true that the grammatical structure of their language is like ours—yes, but this relationship is far from excluding that with the Persians, as we all know that the Finnish race is not related either to the Slavonic or the Germanic tribes among which they live, and we also know that their original home had been the plains of Turania, so that probably the Finns also are related to the Persians. And it is their music that yields the most striking proofs. Our musical literature contains the results of investigations concerning this question, and I could refer to essays in case any foreign musician should find the question interesting enough. But here I mention only that the peculiar Hungarian scale we have seen does not appear in any other music except the Finnish songs, where it is to be recognised, as pointed out by one of our musicians, Dr. G. Wolnár.



The Baskirs are, as we know, also of Finnish origin, and in their music a foreign investigator, Wallascher, had pointed out ("Primitive Musik"):—



Foreign musicians assert that in our music it is the curious mingling of the *flat* and *sharp* signs which explains its character,—the sudden transformation of the dark, melancholy tone into bright effects. Running the risk that you will think it exaggerated, I venture to point out that I find our national taste to be this, whether in poetry, music, painting or art-industry: A calm, quiet, rather dark background or fundamental tone, and on this, here and there, sudden, brilliant effects of light and colour and tone. Our music is like this; after the calm, broad *portamento*, *lento*, or *largo* of the first part, all at once the throbbing, lively, sparkling second part of the song. But this is the style of our decorative art too. You know the historical costumes of our noblemen; the so-called "Hungarian patterns" are, even among Italian Renaissance brocades, velvets like this—dark, quiet coloured, rather sombre background, and on this a few

bright effects of light colours. It is thus that the costumes of our peasants are composed; this is the style of our ancient jewelry—dark enamel, oxydized metals, and on them conspicuously bright stones. Our carpets, embroideries, weapons, harnesses, form no exception to this rule, and in art, of those two painters of ours who are real representatives of the Hungarian national genius, Michel Munkácsy, the painter of "The Christ before Pilate" and of "Milton dictating the 'Paradise Lost' to his daughters," reveals this way of combining bright effects with a dark tone just as much as the other, Michel Zichy, who lives in Russia as the Czar's painter. And finally, just as a curiosity indeed, I mention the words of a foreign writer on physiology, who says about us: "The Hungarian face is in striking harmony with their way of speaking; the fundamental character quiet, the real colour of the complexion a calm amber tint, but now and then a sudden bright flush; straight lined, calm, regular features, to which only the curving lines of the mouth give an appearance of vivacity; steady looking, almond-shaped eyes, very much shaded, but suddenly turning lively and flashing."

I mentioned the likeness of our poetry and the Persian. It is to be noticed both in its internal features and in external form. Symbolism closely connected with Nature is the real character of the Persian, Arabian and Hungarian poetry, easily explained by the way they lived, by that free life in contact with Nature, but as the metre, the form of poetry, stands nearer to music, let us speak here only about this external aspect of poetry. Many of our ballads and the romances in our folk-lore remind the reader vividly of the Schah Nahme. And as to our national metre, it is the choriambus — ∪ ∪ —, as it is in the Arabian; even the lines are alike, the most ancient metre of the Arabian romances being the *reml*:—

— ∪ ∪ — | — ∪ ∪ —

It is composed of four equal lines, and all our ancient historical songs have this form. The strong rhythmical throbbing gave a musical character to it:—

Monda Magyar: Hej ki tudja,
Merre van a hazank utja,
Kerek az ég minden felé
Anyám, anyám, meghalsz belé.

The other national Arabian metre is the *fachti*, very frequent in Hungarian songs too:—

— ∪ ∪ — | ∪ ∪ — | ∪ ∪ —

As in this:—

Buzafóldön kivirult a virág
Nálad nélkül mit sem ér a világ,
Buzaviràg az apád mezéjén,
Kékszemü lány, te leszel az enyém.

The *reml* often appears in Arabian heroic songs in this combination:—

— ∪ ∪ — | — — | — ∪ ∪ — | — —

And this is the metre of all our heroic songs about King Attila, about the migration of the Magyars, and similar themes.

Hullatja a lombot az idö vën fája,
Terítve hatalmas rétegben alája
Én az avart jártam, tunodve megáltam,
Egy régi levélen ezt írva találtam.

I need not point out what a remarkably strong musical rhythm is to be noticed in the language. And it has been demonstrated that music has always developed best in countries where the language itself was musical; as it was the case with the Greek, where the strongly pronounced anapæstical rhythm of the language soon created the anapæstical religious songs sung on the occasions of sacrificing goats, so that the well-known word "tragedy" was formed from the words *tragos* and *ode*, meaning goat and song. The Italian nation is again an instance that melodious language best leads to musical development. In order to show that the three dominating elements of our music—the softness of love songs, the deep melancholy of the sad ones, and the strength of war songs—are easily expressed by our language itself, let me quote a few lines where it describes the peace of a summer night; a second, the sorrow of a funeral; and the third, war.

In our music the religious element probably played a great part too in Pagan times, as during the ceremony when the head priest, the "táltos," sacrificed the milk-white horse, the maidens of the tribes stood singing around the hill where the altar was raised. But of course all these Pagan songs were destroyed with a fanatical hatred by the German and Italian monks who introduced Christianity. What our original instrument for war songs was, we know well, by means of this event: In the year 955, when the Hungarians fought against the German Emperor, Otto the Great, one of their leaders, Lehel, was taken prisoner. The enemy knew how masterfully he played the bugle, and before they

executed him asked him to give them a tune. He did so, but at the end of the song the Pagan warriors' belief awoke in him that the enemy he slew here would serve him in the other world, so he grasped his bugle, struck the Prince Conradin on the temple, and said: "Thou goest before me and wilt be my servant." And the bugle, which they keep in one of our museums (at Jászberény) shows a dent on its edge.

For many years the battles of the predatory Hungarian tribes ended in victory, and their war-songs were flourishing triumphal marches; their religious songs joyful thanksgiving hymns. But by degrees the neighbouring nations learned how to defend themselves against them, and the wars at the end of the tenth century taught serious lessons to the Hungarians. Their songs show a new element, when they are mourning over lost battles, dead heroes. The minor key mingles with the dominating sounds of the major. And this transformation seems to prepare the way for the milder sounds of the Christian hymn.

But here, at this period, we see why it was that the individual character of our music was preserved in spite of the efforts of the foreign monks, directed to the destruction of all Pagan traditions.

Try to think of the map of Europe. We may roughly divide it into three portions: the north-west occupied by the Germanic races; the south-west by the Latin tribes; the east belonging to the Slavonic nations; and in the middle of all these there was a small nation, a stranger to all the rest, not akin to anyone. Nobody ever acknowledged us as kinsmen in the days of peace, but when the stormy times of barbaric invasions followed,—invasions of Tartars and Turks—all our nearest neighbours expected us to defend their culture with chivalric courage. Of course they felt no concern for Hungary's culture, as it was only just dawning, while that of the others had existed for centuries. Oh, but nobody thought of it, whether it was not sadder than anything that its morning light should be darkened by storm-clouds, that even the hope of a peaceful day should be annihilated. Hungary sacrificed her own culture, but saved that of Western Europe, when fighting the Tartars and the Turks. Yet when the danger was over the surrounding nations failed to remember what Hungary had saved, and they only saw with disdain what she had lost. And to whom could we have told all this? Common joys and common griefs have often destroyed the dividing walls between related nations, the similarity of their language has paved the way for increasing friendliness. But we? Who would have understood us? What means had we of expressing our joy and grief?—The song.

Try to think of a nation lonely as we were, and then perhaps you will understand that the strange elements in our music which fasten upon your imagination do so by the power of sincerity and truth; you will understand that this music is the history of a people with all its joys and griefs; and you will recognise in it the sound of bells pealing at the funerals of so many heroes—the sound of sobs lamenting them, and the sound, sadder perhaps than all this, that of the fetters.

It is no wonder if the nation clung to its music, as it was its history at the same time. The nation clung to its music, and this clinging manifested itself as a reaction. When first introduced, Christianity sought to stop the national songs; but the very opposite of this happened, for these national elements penetrated into the Christian hymns, and certainly one of the most interesting details for investigators of Hungarian music would be those early hymns to the Virgin Mary, to our patron saint, then to King St. Stephen and St. Ladislas. Of course the general character of our music made this strange mingling possible, the rather serious, dignified "portamento" of our songs makes them so suitable for church-music. The best example of it is the majestic oratorical composition of Francis Liszt, entitled "St. Elizabeth," where we have but to play the leading motive in a little quicker tempo and we discover a simple, foolish little song about no more dignified a subject than a meagre dinner of brown bread and radish.

Then also the great reason that our historical songs had to commemorate events of such intense sadness, accounts for these songs being singularly sad, dark, mournful; as we may see them in the first printed collection of our songs made by one of our minstrels, Tinódy. During all this time the instruments were the different kinds of horns, bugles, trumpets for war and mourning songs. The best among them was the tárogató, that wonderful instrument equally suitable for fanfare-like flourishes and for sweet, whispering melodies. The wandering minstrels (called "lantos") had a lyre-like stringed instrument called "koboz." There was no trace at all of any instrument used at the present time by the gipsies.

In the first part of the fourteenth century Hungary became closely connected with Italy in consequence of the succession of the Anjou dynasty to our throne. Italy spread her refining, beautifying, softening, but at the same time effeminating influence over Hungarian manners. Hungary first becomes acquainted with velvet dresses, glass goblets and jugs, gloves, upholstered furniture, and in music with the violins and other stringed instruments of decidedly gentle tones. It was in the time of the Anjou kings that the military power of Hungary was organised according

to the Italian feudal system, and it is interesting to notice that among the marches played by these troops we clearly detect real Italian motives. As the court of King Louis the Great was one of the most brilliant centres of Renaissance life in Europe, many Italian artists lived there. Later on, in the time of King Mathias Corvinus, this Italian influence increased still more, in consequence of his marriage with the Italian Princess Beatrice, and it was at this time that two factors of musical life at the Hungarian court were well known all over Europe; two things about which the Italian historians often speak: first, the gigantic organ with pure silver tubes in the cathedral of Visegrád, and the second the famous choir, the best in all Europe at this time.

But if Italian elements entered our musical life, on the other hand our national music also became known abroad at this time. In the years 1572—75 there was published in Strassburg a collection of the two best known kinds of Hungarian dances, the slow and the quick one, under the names Passamezzo Ongaro and Saltarello Ongaro. Later, in 1621, there was again published Hungarian dance music under the names Ballo Ongaro and Padoana ditta la Ongara, collected by Giovanni Picchi, the organist of the Casa Grande in Venice.

When speaking about these facts, the only thing I want to emphasise is that even here we do not yet detect anything of the fioritura introduced by the gipsies later. The Hungarian dance itself, the ancient *palotás*, was a slow, graceful, very dignified dance, a real court dance, as its name indicates. But at this time we clearly distinguish two kinds of music, the one living on by means of tradition only among the people, and which can never be written down with perfect truth in any notation, and the other kind composed by cultured musicians and authors, but under the influence of foreign teaching, as the "Cronica de introductione Scyttarum in Ungariam et Judeorum de Aegypti." And it is at this time that the gipsies appear. How could I draw a sketch in a few minutes about this strange, peculiar sort of people, different from all the others in their good qualities as well as in their faults! Let me point out what contradictory elements met when the Hungarians and the gipsies came into contact. There you see my Eastern race, with all its heavy, slowly-moving, hard Oriental dignity; I am afraid with no small amount of self consciousness or even pride, and—I am afraid again—with no small love for playing the "grand seigneur," and finally with a deadly terror of two things, namely, currying favour with anyone by means of a flattering tongue, and "playing the fool" as they say for anybody's sake. Now, does not the combination of these qualities explain why the gipsies have found a home in

Hungary; the gipsies, who are as far from dignity as possible, able to bear all humiliation, all ridiculous and awkward situations, entirely submissive to dominating behaviour, with no sacred traditions of religion or of national or family life, with a creeping, flattering nature nearly insensible to disdainful treatment, able to bear all this for the sake of profit?

Now, are not the parts of master and servant clearly indicated?

Some of the facts I have mentioned about my Hungarians explain why, in the matter of music, we really thought very much as the Turks and Arabians did about dancing. When the latter saw the brilliant crowd at a ball in a Western town they said: "Such tiring work is done by the servants in our country." Well, the Hungarian liked and enjoyed music, but preferred having it done for him by people to whom he could give his orders; so that even a hundred years ago, when the professors discovered decided musical talent in the son of one of our noblemen, and advised the father to allow his son to study, he nearly felt offended, and said only, "I can keep a whole gipsy band; there's no need for my own son to do it for me or for himself." Well of course it is to be explained why it was that the Hungarians encouraged the gipsies, paid them, were most gracious masters to them, but—did not want to have anything in common with them. All that was most sacred to us, our hearth, our pure family life, the very soil of our country, was no object of reverence to the gipsies. But, alert and cunning as they were, they soon found out that the Asiatic pride of the Hungarians liked to be served by musical entertainment, and so they quickly found their real occupation. It was the easier for them to take it up because—to tell the truth—the gipsy is not to be domesticated and trained for any regular work or regular life. Quite apart from their remarkable musical talent, they have much mechanical skill, but the gipsy works only when driven to it by the utmost necessity; as soon as the clouds begin to disperse a little from above his head he is his old self again, strolling about, sleeping, idling, fiddling away the whole live-long day. What the word "Bohème" means in French we know. Three hundred years' efforts were not enough to train them to do anything else regularly but music. Many of our kings tried to do so by means of special laws—in vain. One of our Archdukes, Joseph, who is living now, gave them three villages and tried to organise them; it went on for a time, till all at once one morning they gave notice to their generous landlord and off they went.

If ever you happen to read the work of Francis Liszt entitled "The Gipsies and their music in Hungary," there you will find a short biography of a gipsy boy. You cannot

read anything more true, more characteristic of the whole race, than the story of this talented, uncontrolled, reckless being, full of genius but simply incapable of any regular study even in music; full of vanities, weaknesses; living only a material life, and among all the luxuries of a cultured life feeling a wild yearning after his unlimited Bohème freedom—every word is true when applied to the whole race.

As to the new elements they introduced to our music, it was the musical trimming, the fioritura, the profusion of which (making it sometimes difficult to discover the real contents) is entirely a gipsy feature, as they have this liking for a profusion of ornament on their dresses too. It is proverbial that the dream of perfect happiness for a gipsy would be to sleep in the wood all the day except at meals, and be dressed in a scarlet suit with golden tresses and buttons. You often see gipsies dressed in rags, but with strings of brass coins, glass beads on the neck.

The instrument most characteristic in their band, the *cimbalom*, is of Egyptian origin, as they themselves are.

When the Reformation divided the country into two parts, the Western being the Catholic and Austrian one, and the Eastern part the National and Protestant, many of our nobility lived at the court of Vienna, so that in the West even the music shows some foreign elements; but in the East the music became more and more monopolised by the gipsies.

The Reformation transformed even our church music, as the Protestant party emphasised their national character by giving Hungarian turns and endings to the hymns. This is to be noticed in many of our Calvinistic hymns even now.

The part played by the gipsies really became important in that period which, but for its belonging to recent times, could be imagined to be a time of legends, of myths, of heroic tales, because it possessed the pure, sacred elements of legends, the wonderful and dazzling colours of myths, and the pathos and grandeur of heroic tales. And all this was added to the epoch by one personality; all these elements surround the figure of one man, who was pure as the heroes of legends, fascinating like those of the myths, and grand like those of heroic tales—Francis Rákóczy the Second.

That age created a new epoch in music too; not only because his court and his wealth assured success to the musicians, but because his personality was the centre of all the whispering, languishing romances, of all the flourishing, triumphal songs, and later of all the sobbing laments of immense sorrow, when the figure of this most unselfish patriot disappeared from Hungary,—faithlessly deceived by all his foreign allies, because he did not think deception possible—

and he went into exile giving up his enormous estates, as he could not keep them without being false to his principles, and surrendering all his dignities and rights that he might be true to his conscience.

While he lived among us, there we discover in the music of his favourite court musician, Barna Miska, and in that of the mysterious gipsy woman, Czinka Panna, the elements of that war song each sound of which seems to us the calling of the day of judgment, the Rákóczy March. This was born on the strings of the violin animated by the wild genius of the woman artist, Czinka Panna, who followed the leader, Rákóczy, from camp to camp, through all his misfortunes; followed him as the poor, creeping, humble shadow follows the glorious sunlight, follows it even when the time of sunset arrives.

And the sunset arrived. The bright luminary fell from our firmament, and sank into the waves of the marble sea. There he died in Turkey, in exile. When the rolling waves of the Marmora are roaring about his grave, his soul must hear in their sound that war song which is sacred to us, hallowed by his name.

Each name mentioned in this epoch of our music would furnish a subject for monographs, and the difficulty of giving the character and history of a nation's music in one evening is still more to be felt when we arrive at modern times and modern musicians.

But on the other hand these times are easier to be known with regard to our music. Haydn, Schubert, Beethoven, all had visited Hungary, their essays also added to the world's exact knowledge of Hungarian music. Names are crowding in these times, names that must be the more interesting to any musician the broader his view and the nobler his taste is. If you wish to know all the rich, unbounded genius of a real gipsy artist, together with all the peculiarities of his race, study the music, study the style and the life of the best among them, Bihari; about the strange fascination of whom let it be enough if we mention only that in 1814, at the time of the congress at Vienna, the Empress Maria Louise, wife of Napoleon, felt afraid at seeing that each tone of the fascinating artist's violin was played only to one of the foreign queens. This homage was emphasised still more by his looks continually fastened upon the face of this lady, and the answer of those eyes may have revealed something dangerous, so the Empress Maria Louise thought it wise to interfere. His biography we also find in the books of Liszt, also furnishing an excellent character sketch of all the race.

Then if you wish to see Hungarian music made more systematic, clear, refined by a self-conscious artist's hand,

you find rich mines for investigation in the works of Lavotta, Csermák, Rózsavölgyi, Egressy, Mosonyi.

For all this you do not need my help in pointing them out to you. What I would say in conclusion is nothing else than this: If you hear that strange, contradictory music of ours, let it have a share in your interest, bearing in mind that the bright, metallic sound in it is the voice of our victorious legions; but give to this music something of your compassion too, because the sobbing melancholy in it is the echo of centuries of suffering, and then give to our music something of your sympathy too, because those bright, clear, leading motives in it, so distinct and straightforward, are like the leading words on our banners in the struggles of a thousand years—"Right, Honour, Patriotism."

DISCUSSION.

THE CHAIRMAN.—The lecturer has been so good as to give us a paper couched in highly poetic language, to which this plain room with its chocolate and yellow is for the most part not at all accustomed; though I am looking at another lady (Mrs. Newmarch) who has often introduced a poetic element into our proceedings. I think we were surprised when the lecturer, a stranger among strangers, stepped on to the platform and with such fearlessness and candour delivered this excellently worded address. She has also given us a pleasure in hearing many specimens of the mellifluous Hungarian tongue, which from its being entirely removed from our experiences we generally imagine as something that must be ugly to listen to. In the same way I am sure that when we see the half-Runic half-Greek characters of the Russian tongue, we always think in advance that it must sound rough, whereas in reality it is as soft as Spanish. I request that you will signify a vote of thanks to the lecturer in the usual way. [Vote of thanks carried.] The lady will pardon us if we proceed according to custom to discuss her lecture, even though, to use her own simile, this is like pulling a rose to pieces. I have come into the chair by an accident, and have really no special knowledge of the subject. I wish Mr. Fuller Maitland were here, for I believe he is familiar with it. It has just occurred to me that a quarter-of-a-century ago M. Tisza was my guest for two days. I think that was before he was prime-minister. I remember that he was a very quiet, pleasant gentleman, and he had one thing in common with Mdlle. Gyory, that he spoke exceedingly good English. I cannot think of any

other connection with Hungarian subjects. However, our card shows a surfeit of topics for those to discuss who wish to. Speaking a moment for myself, I am not in sympathy with some of the remarks about nations and politics. I do not see that the Italians need our pity for being light-hearted; and still less on the other hand do I believe in what is said about oppressed people and minor thirds, though I know it is the fashion to talk so. It may be that we English people have been politically successful too long for us to be fit judges on such a subject. Still I must express my convictions, and they are that the Governments sitting at Buda-Pest, Paris, or London, or wherever else you like, have scarcely any appreciable influence on national character and still less on national music. Nations, like individuals, have of course their characters; but it is much more likely that these make the Governments than that the Governments make them. As an instance of an oppressed people the inhabitants of Southern Hindostan were quoted in the lecture. I really must protest against this, having lived among them so long and so very intimately. The Dravidians are a primitive, sturdy nation of thirty and odd millions who have not developed any taste for democratic institutions, but who has oppressed them I do not know, and they certainly are the happiest conceivable race. I think we may reasonably object to these things being said here. The idea that their primitive scales have any connection with political melancholy is totally absurd. Well, the Chairman is put up on these occasions to talk against time, while Members are making up their minds what to say. Even in that capacity I find it hard to enlarge on the subjects of the lecture. I only call to mind that the Magyars and gipsies, though numerically a small part of the population, make up Hungary in fact from an artistic point of view. We should have been glad to hear even more of the gipsies, who were as yeast in the dough.

Mr. W. H. Shrubsole.—Mr. Chairman, I have listened with very deep attention to the excellent discourse Miss Győry has delivered this evening. So fully has she covered the ground that it seems to me she has left very little for anyone to say. But I cannot refrain from remarking that I am extremely interested in the musicians of Hungary. I took every possible opportunity of hearing the gipsies, and I certainly found much pleasure in listening to their most peculiarly delightful method of handling their instruments. A true gipsy band is a new sensation. It is something altogether different from anything I have ever heard in London. I do not know whether any gipsy bands are ever found in this part of the world. I never heard of any. I have heard of Hungarian bands it is true in London; and I asked some Hungarian friends who had visited London

whether they had made the acquaintance of any of them. They told me that when they addressed in their own language some of these so-called Hungarian bandsmen, they found that they could not understand a word of it. I only wish that there were a true gipsy band in London. They would often find me among the audience, I know; and if such a band could be imported I am sure it would be one of the greatest novelties of the season. These gipsy musicians are credited with a rather larger amount of musical knowledge than they really possess. In every guide-book it is said that if they once hear a melody played or sung they can reproduce it in all the parts on their respective instruments. Well, I am not a musician, but it did seem to me that such a feat as that would be something approaching to the miraculous; so on more than one occasion I put it to the test. One of my friends, an Englishman, sang a little-known Welsh air, which it was practically certain they could never have heard before. They said they would try to reproduce it. After my friend had sung it once, the bandmaster said, "Will the gentleman please sing it again?" That was done; then they stopped, and we expected the band to begin, but the bandmaster said, "Now if the gentleman will sing, we will play it with him." What happened eventually was that the leader of the band got very close to the singer and waited for each tone, and the moment the vocal note was uttered, he followed with the same note, but always a minute fraction of a second behind, while the others vamped something which made fairly pleasant harmony; but it did not bear out the statements of the guide-books. I am sure that music is cultivated to a high degree in Hungary by a large number of people, and I noticed that even uneducated people had very quick ears and very strong voices. But I found that though they have such good voices (the men seemed capable of ascending to almost any required height) they are usually quite unable to read music. It struck me that it would be a blessing to those people if they knew something of the Tonic Sol-fa system. I do not know whether you think me a heretic, but I am a strong advocate of that system. I thought what a blessing it would be as an educational means of promoting a knowledge of music among these people. When I went this year I took some music in the Sol fa notation, with Hungarian words, kindly printed by Mr. Curwen, and I had the pleasure of instructing a number of theological students, professors of music, schoolmasters, and teachers at the University College at Kolozsvar. At Buda-Pest I was introduced to the musical professor of the Pædagogium—where school teachers are trained—and made a convert of him. I had the pleasure of putting him through an examination prescribed by the Tonic Sol-fa College of London, and the first Tonic Sol-fa

certificate to go to Hungary was afterwards sent. The Minister of Public Instruction has informed me that if the reports are favourable he will order the Tonic Sol-fa method to be introduced into all the Public Schools of the country, and I look forward to the time when it will be as beneficial there as in our own land.

Mr. SOUTHGATE.—I have also had the pleasure of travelling in Hungary, and I venture to think the Hungarians do not require the Tonic Sol-fa or indeed any system at all. These extraordinary people, who play this most interesting music, cannot read, cannot write, cannot translate a note of written music; but they are gifted with such marvellous ears that they seem able to play anything, besides their own characteristic music. How they do it I have never been able to understand. When I went into Hungary I found that the Magyars would only speak their own language, that they did not want to hear any other, certainly not German. It prevented me from talking to these musicians, and greatly I regretted it. But I could hear with my ears, and found that when they played a piece of concerted music and it was encored, it was never repeated identically. I cannot help thinking that when a nation is so gifted as that, systems matter nothing to them. They evolve this music from their inner consciousness; possibly some learned German pundit can explain how it is done. This strange music is delightful to hear, though it seems to be in a different tonality from ours. I think our lecturer said we ought to share in the interest which she and her country people feel in the Hungarian music. The names of some musicians, who if not Hungarian by birth have at least drunk at the fount of the Hungarian tonality, should make us reverent and thankful for what they have done. One peculiar feature, the augmented second, I always think is a marked characteristic of all Slavonic music. Independently of that the music is so very different in character from ours that it may be said it is not written in the same modes or scale. It is, I think, derived from old Greek modes. They have the notes of our diatonic scale, and can use them if they like, but they omit certain notes and take wider skips than we do. That is the difference; they prefer it that way; and it seems new and uncommon to our ears. Then our rhythms are different. I am afraid our rhythms in the West are restricted as compared to the old Greek types and recitative-like cantilation. We get movements in $\frac{5}{4}$ time sometimes; and we know how the public appreciate it. I wish our composers would find some way of obtaining more novelty in this respect. The Hungarians have not only strong accents, but accents in different places from ours, and these at once strike the musician's mind as something fresh and original. With

regard to the intense interest which the Hungarian people feel in their music so inseparably bound up with their history, let me tell you something that came under my notice with regard to the Rákóczy March. Most of you know this from the magnificent orchestral arrangement found in Berlioz's "Faust." It is often played in concert-rooms and always with great applause. I remember hearing a real Hungarian band in Vienna—not the fashionable society bands we get here, with merely dressed-up players. They played this and were encored; they played it again and were encored again. At last the excitement got so great that the people who had swords drew them, and some of them got on the tables, and really I began to feel rather fierce and bad myself. I mention this to show the extraordinary effect that this Hungarian music has when one hears it *in loco*, and catches somewhat of the spirit of its national character. Of the Hungarian musicians whom we know well, Liszt has been mentioned as the great exponent. I would rather take Joachim as a characteristic Hungarian musician. If there had been no pianoforte, I do not think Liszt would have held quite the place he does now. He is before all things the wizard of the pianoforte. I note what the lecturer said about his "St. Elizabeth," but I must say it has not produced that effect on me, nor indeed on our English critics. But it is impossible to hear Joachim's Hungarian Violin Concerto without feeling what a great work it is, full of characteristic music, and I think it stands forth as an example of what highly-developed modern Hungarian music can be. I would very much like to have heard whether there is any wide difference between the sacred and the secular music of Hungary. We know there is such a difference in other countries. May I venture to differ from the lecturer in one respect? She says the gipsies came from Egypt. So no doubt they did. But they did not bring from Egypt their cembalo—we call it the dulcimer. I have gone somewhat deeply into the subject of Egyptian music, and I should be very glad to learn if anything resembling a dulcimer is to be found on the Egyptian frescoes. It would be interesting, because the dulcimer is the parent of the pianoforte. Representations of this very ancient instrument may be seen in the new Assyrian room at the British Museum which has those magnificent slabs of the famous bull-hunt. You will find on the ground-floor a representation of the king going to war; and among the musicians in the procession there are some dulcimer players. They have the instruments suspended round their necks and little hammers in their hands. The instrument they are playing on is in its main features similar to that used by the Hungarian players; so that comes from Assyria, and not from Egypt.

Mr. SHRUBSOLE.—The members of one gipsy band assured me that they learned all their music from notes, and one bandmaster asked me to give him the notes of "God save the King," as otherwise he said he could not play it properly.

Miss GYÖRY.—The Hungarian hymns are derived from the Reformation. The Hungarian youths generally studied at Berlin, and brought home the Lutheran tunes, but in the Eastern part of Hungary, where Calvinism prevails, we have the real Hungarian music. The Calvinist hymn-tunes differ from the Lutheran; they are all in the Hungarian scale that was heard at the beginning of the meeting.

SUBJECT INDEX.

x Harmony

DECEMBER 9, 1902

W. G. McNAUGHT, ESQ., MUS.D.,

IN THE CHAIR.

✓ *THE DUAL THEORY IN HARMONY.*

BY HERBERT WESTERBY, Mus.B. Lond., F.R.C.O.

MR. CHAIRMAN, LADIES AND GENTLEMEN,—My object in reading to you a paper on "The Dual Theory in Harmony" is not only to draw attention to a subject which is very little known in this country, but also thereby to stimulate the spirit of comparison, and to induce the study of the various theories which have been put forward as a rational basis for all harmonic phenomena.

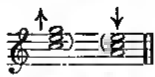
I have been forced from conviction after a careful study of many different authorities, to take up a somewhat destructive attitude with regard to the particular theory of Dualism; but one cannot destroy consistently without suggesting something to take the place of the matter destroyed, and therefore I have been compelled to suggest alternatives.

My great difficulty, generally speaking, has been to condense what is clearly a very difficult theme both to handle and to follow, and therefore I am afraid I shall have to make very considerable demands on your patience, in listening to what may prove to be a very abstruse subject.

THE DUAL THEORY.

To begin with, what in brief is the Dual Theory? Well, it is a Theory of Harmony which, though as I have said is practically unknown in this country, has secured a good deal of attention on the Continent, its latest and most powerful exponent being Dr. Riemann, the Professor at the Conservatoire of Leipzig.

The essence of the Dual system lies in the difference of the major and minor common chords—a difference said to be not one of *kind*, but in the *position* of the third of each chord. The difference is shown in this manner:—The major triad consists of a major third with a minor third above, therefore by reckoning the major triad backwards, we obtain first a minor third and then a major, which is identically the construction of the minor triad.

Ex. 1. 

The view then is that the *Minor* Triad is an inverted *Major* Triad, the difference being that the distinguishing third in one case is at the base of the triad, and in the other at the top, and upon this difference of position the whole system of this Theory of Harmony is built. The principle of *Duality* is seen therefore in the two different methods of derivation—*Major* Harmony being deduced from below upwards, *Minor* Harmony in the reverse manner.

HARMONY BASED UPON UNDERTONES.

As the *raison d'être* of the so-called minor phase of this system is based principally on the acoustical phenomenon of undertones, I might say that I propose to make a rapid survey of the *Co-evolution of Harmony and Acoustics*. Commencing with *Pythagoras*—who determined the intervals within the Greek Tetrachords, and *Aristoxenus*, who in 300 B.C. detailed the proportion of the major and minor tones, we have nothing but disquisitions on the constitution of the various Greek modes till we come to *Boethius*, who wrote in Latin in the early part of the sixth century on sound, intervals, consonances, ratios of intervals and the modes, &c.

THE HARMONY PERIOD OF RATIOS AND PROPORTIONS.

All the succeeding treatises till the eleventh and following centuries, and even till the Hexachord System had been introduced, followed Boethius, based as they were upon the old Greek modes. Moreover, the old Pythagorean mode of tuning from the fourth and fifth only did not favour the evolution of harmony, since the thirds and sixths produced by it were dissonant. The treatises based on Boethius treated of ratios and of contrapuntal combinations, but not of harmony in our sense of the word, as for instance in those by *Gaforius*, published in 1480, *Ornithoparcus*, in 1517, and works by other authors dating as late as 1600 A.D. But while the theorists of the middle ages were seeking to confine all music to certain proportions and ratios, practical

musicians, as Sir John Stainer points out, "were quietly finding out and using forbidden combinations of chords, to the utter confusion of the theorists." This lagging behind of theory, really due to a crude knowledge of the principle of acoustics, was first seen in the *organum* accompaniment originally used at fixed distances of fourths and fifths, as in Hucbald in the tenth century.

Discrimination dawned on the monkish executants when *Dunstable*, at the beginning of the fifteenth century, entered a protest against these crude successions. The abbot *Gerbertus*, in his collection of 1784, gives an example in which are introduced both major and minor thirds, and by the time we reach Franco, of Cologne (*c.* 1190), and Garland (*c.* 1210), these intervals are admitted as imperfect consonances.

While these monks of the middle ages were tied down to the old Greek modes and the harsh Pythagorean tuning, we find, on good authority, that the British and Welsh were practising secular music in harmonised parts which were substantially based on what we would call modern tonality. To pass on, however, by the time we reach the period of Monteverde (1584), modern tonality begins to assert itself, and modern harmonic combinations take shape, and by the beginning of the seventeenth century the subject of proportions and ratios begins to die out. All that had been done therefore by *science*, up to the establishment of modern tonality, was the fixing of the correct relationships of the modern scale. The period of Harmony built on proportions and ratios had practically come to an end.

HARMONY FROM OVERTONES.

Our next factor in the evolution of the science of acoustics is the discovery of the phenomenon of overtones as described by Mersenne in his "Harmonie Universelle" in 1636 (see Quotation in "Pole," * p. 41), as noted also by Noble and Pigott, two Oxford students, in 1676, and as traced by Holder in his Treatise of 1697. The first *scientific* explanation of overtones was made by Sauveur in 1701, but it was not till 1722 that they were incorporated into a system of Harmony by Rameau.

One might mention in passing that the principal points in Rameau's Treatise of 1722 were (1) The exploitation of the principle of Inversion of Chords, one which had probably been suggested by his study of the phenomena of harmonics in the works of Zarlino, Kircher, and Mersenne; (2) His restriction of acoustically derived harmony to the common chord, since the coincidence does not extend farther; (3) His failure to derive the minor chord from the system of

* Dr. Pole's "Philosophy of Music" (Trübner, 1879).

harmonics and consequent attempted provision of a double root for the same—viz., the root and its minor third, on the ground that both possess a principal overtone in common; (4) And the extension of the idea of double generators for the explanation of "intractable chords as combinations of portions of other chords" (Pole). This idea of double roots or generators, the *reductio ad absurdum* of the overtone system, was taken up by Dr. Day in 1845 in his explanation of the augmented sixth, and partly adopted by Dr. Pole in his "Philosophy of Music," 1879. Dr. Riemann not only accepts the "compound origin" of Rameau for chords in the major key, but adopts the irrational theory of undertones for the minor as well.

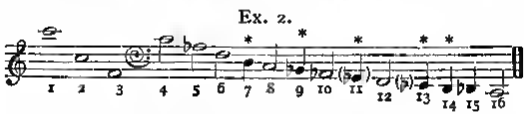
HARMONY BASED UPON UNDERTONES.

With regard to the latter theory it might be noted that *Zarlino*, in his *Institutione Armoniche* in 1558,—that is one hundred and fifty years before the foundation of a System of Harmony on Overtones—refers to the major chord as founded on the ratios of a vibrating string, in the order of the series 1, ½, ⅓, ¼, &c., but the minor chord he bases on the reverse arithmetical progression 1, 2, 3, 4, &c.—the one was called the *Divistone Armonica*, the other *Divisione Aritmetica*.

About two hundred years after the appearance of Zarlino's work we have Tartini's Treatise, 1754, a work based upon Rameau and not going beyond the Minor Seventh in use of the Overtones, giving an acoustical explanation of the Minor chord based on the system of resultant or *undertones* as discovered by him and by Sorge in 1740, and what is important, both Zarlino and Tartini infer that the Minor Triad *has not* a Minor third, but is only a Major triad inverted.

Here is a diagram showing the system of undertones. The Minor Triad is related to the series of undertones in a similar manner to that in which the Major Triad is supposed to be related to the series of overtones.—

Ex. 2.



EXPONENTS OF THE DUAL SYSTEM.

Nothing more was heard of the theory of the Dual phase of the Major Triad until Hauptmann took it up and clothed it with the logic of Hegel in his well-known "Nature of Harmony," &c., in 1853.

Helmholtz some ten years afterwards, eschewing the Hegelian dialectics of Hauptmann, attempted to establish the laws of part-writing on a scientific basis. Helmholtz avoids the undertone theory, however, and following Rameau, builds his Minor Triad with a double root from the system of overtones. Two years later, in 1865, appeared "Oettingen's Theory of Harmony Dually developed" (now an exceedingly scarce work), in which the inconsistency of Helmholtz is shown. Oettingen presses the system of undertones into service, and adopting Hauptmann's polar opposition of the Major and Minor Triad, provides the latter with an equally scientific basis, and in doing so names the topmost note the principal note, or, as it were, a kind of secondary fundamental. Oettingen built up on this a whole system which he termed a *phonic* system, based on a phonic mode, of which, however, no practical use in art has, I believe, been yet made. The system as it thus stands has been taken over by Riemann, the Professor at Leipzig—now its principal exponent.

MINOR WORKS ON HARMONY.

We have traced the co-relationship of the principal systems of Harmony, with overtones and undertones. We shall now mention other works on Harmony in chronological order, and, touching on the relationship of Theory to Practice, sum up our first part, with the influence of acoustics as a whole on the æsthetic fabric of Harmony.

We have said that the beginning of the seventeenth century saw modern tonality established as in the works of Monteverde and others.

Theorists still lagged behind practice, however, for while Campion in 1620 and Christopher Simpson in 1678 were grudgingly allowing the chord of the Dominant Seventh in addition to the common chords, Purcell was writing chords of the major and minor ninth, Tonic Discords, Neapolitan sixths, &c.

Then, again, in 1731, nine years after the appearance of Rameau's work and forty-six after Purcell's death, a treatise by *Godfrey Keller* shows some advance by the late admittance of the major and minor ninth.

This was followed by Marpurg, a follower of Rameau, in his "Handbook of General Bass," in 1755, a work of no particular value, also by Tartini's Treatise, in 1754, which, as mentioned, was also based on Rameau with the exception of the undertones theory.

Then we have a Treatise by Kirnberger in 1744, who tried to derive all harmonic combinations from two chords, the triad and the chord of the seventh; also Kollman's work, published in London, 1796. There is also the school of Valotti as expounded by himself in 1779, *Knecht*, 1785, and

Vogler, 1795, in which elaborate system, any chord up to the eleventh is admitted on *any* note of the scale, the resulting chords with their Inversions being also subject to chromatic alteration. Passing over works of no historical value, by *Gottfried Weber*, 1817, also by *Logier* and *Marx*, we come to Hauptmann's great work in which acoustical influence is denied a footing, and lastly to Riemann, whose system, as I have said, is founded both on the over- and undertones, and who, apart from this, derives the whole of Harmony (arbitrarily of course) from one central triad by the process of inversion, addition and chromatic alteration.

INFLUENCE OF ACOUSTICS ON HARMONY.

One might well ask, What, then, has been the influence of acoustics as a whole upon the evolution of Harmony? Well, there is one thing that we notice throughout the study of the subject, and that is, the phenomena of Harmony always existed before the so-called scientific explanation of the same, or, in other words, that practice always did and always has outrun theory.

Tyndall, the scientist, says in his "Sound" regarding the evolution of music in general that "the musicians engaged in this work knew nothing of the physical facts and principles involved in their efforts, they knew no more about it than the inventors of gunpowder knew about the law of atomic proportions." Quite so, and while they knew nothing of the physical laws involved, neither did they know anything of the æsthetic law. Mr. Banister in his "Music" has said that "undoubtedly the gropings after truth of Mersenne, Zarlino, Rameau, resulted in little that could otherwise than *fetter* rather than practically guide or help a student,"—so much was forbidden then that is freely recognised now. The structure of Harmony has made immense strides since Rameau, and the regular treatises of our day are still as far behind in systematising the efforts of Grieg, Dvorák and others as were those of Rameau in his day.

The conflict between Theory and Practice arises of course from ignorance of, or incomprehension of, the *principles* which lie at the root of the development of all harmony, hence the reason why theorists are so apt to fly off at a tangent. They seize upon the partial coincidence of the partial tones with the harmonic structure, and thereupon build an acoustical system of harmony; no wonder that sooner or later they find themselves in a quandary, for they are dragging in the laws of matter to explain those of mind. It is not necessary for me at present to dilate on the inconsistency of such a proceeding, nor to deduce the fact that misapplication of acoustical phenomena has throughout been inimical to the evolution of the true principles of Harmony.

I have referred to the periods of Evolution of Harmony as being *first* based on the acoustical question of ratios and proportions, and in the *second* as being built on the phenomena of overtones and undertones, singly and combined. I only trust that, *thirdly*, in this twentieth century we shall witness a period in which the acoustical explanations of Day and Riemann will be kept in their own sphere and the æsthetic fabric of Harmony will be based upon and governed by æsthetic considerations only.

HAUPTMANN'S "NATURE OF HARMONY AND METRE."

We shall now approach the question of Dualism as developed by Hauptmann in his "Nature of Harmony and Metre." This work I would say is one of those which are universally praised, but which are also universally unread. The reason is not far to seek: the Hegelian Philosophy in which it is steeped renders the work sufficiently forbidding apart from the intricacy of the theory in itself. Helmholtz has said in his "Sensations," p. 424, "I cannot but join with C. L. Naumann in expressing my regret that so many delicate musical perceptions as this work contains should have been needlessly buried under the abstruse terminology of Hegelian dialectics, and hence have been rendered inaccessible to any large circle of readers."

Again, Dr. Pole in his "Philosophy of Music," pp. 5 and 6, has said: "His theory generally is so difficult to follow, and, when made out, so unsatisfactory to minds of ordinary calibre, that the book, meritorious as it is, has for the most part fallen dead on the world"; and Hauptmann himself has said in one of his Letters,* Vol. II., p. 128, "I am constantly being made aware that I am not explicit enough." Again he says: "Someone who really understands it ought to translate the meaning into popular language," Vol. II., p. 188; and again, Vol. II., p. 130, he wishes he could find a D'Alembert to rewrite his work and make it readable. Well, I shall do my best to unravel Hauptmann's theory, and ask you to bear with me if the matter does not appear clear at first.

ITS HEGELIAN BASIS:

To understand thoroughly what Hauptmann accomplished in the realms of Harmony, however, we must know what his first exemplar, Hegel, accomplished in those of Philosophy. To put the matter briefly, where Kant and Fichte had failed in their theories of Idealism in showing "that the kingdom of nature and spirit are one in spite of all their antagonisms" (Prof. Ed. Caird's "Hegel"), that Hegel accomplished. Professor Caird says: "What had been regarded as absolute

* Letters of a Leipzig Cantor, 2 vols. (Novello and Co.).

opposites or contradictories, mind and matter, spirit and nature, *self* determination and determination by the *not* self, must be united and reconciled, and that not by an *external* harmony, but by bringing out into their distinct consciousness the unity that lies *beyond* their difference, and gives it its meaning." (The italics are mine.)

Professor Caird says that "Dualism" in some form or other had for centuries endeavoured to lighten the task of philosophy, but this problem of "reconciliation of opposites" fell to be solved by Hegel—and just as the aim of the Hegelian logic, as a science of method is "to trace *in abstracto* from category to category up to the idea of self consciousness" in which the unity of opposites is found, so does Hauptmann in his great work apply the Theory of Dualism, and in attempting to show "how the laws of music depend upon the principles of the human mind" he commences with a system of empirical rules hitherto inadequately explained. These rules are shown to depend upon a certain universal law which, as enunciated in Hegelian logic, consists of a basis termed an original generating unity, confronted by its antithesis or opposite, and a third or reconciling element which mediates between the two opposites.

AND ITS MISAPPLICATION.

In the course of this paper I shall endeavour to show that Hauptmann had made wrong application of this Hegelian law in that (1) he ignores the operation of the law which dominates all others, viz., that of tonality—one that perhaps in his day was not fully considered, and (2) how the empirical rules treated of were not always to be relied upon, since the same represented a transitional knowledge of the subject. Hauptmann thus builds upon certain false premises; before stating these, however, let me say that Hauptmann eschews all acoustical influence in the way of deduction of Harmony from the series of Harmonics. Acoustical values are used, but only to illustrate the difference between various harmonic meanings of the same note.

FALSE PREMISE NO. 1. DUPLICATE HARMONIC MEANINGS.

False Premise No. 1 is the application of these various Harmonic Meanings to a system of Harmony in which they are *not* possible, *i.e.*, as founded upon Equal Temperament. In this premise we have really the application of the infinite to the finite, of a negative to a positive principle, and therefore one that is illogical. A perfect scale is an impossibility. Our system of Harmony is founded on an equally tempered system, and must therefore be accepted and explained as such.

It is plain, however, to anyone who thoroughly dissects Hauptmann's work that he is working to explain either the current views of his time, or in defence of some view or theory of his own, and it is in this way that it is seen that his application of different harmonic meanings is one which is meant to give support to his system. It will be seen later that Duplicate Meanings infer *Duplicate Tonality*; it will also be seen that the characteristic feature of Hauptmann's system is his ignoring of the principle of *Unity* of Tonality upon which our system is built.

FALSE PREMISE NO. 2. THE TRIAD AS "GENERATING UNIT."

Hauptmann's system, it might be said, is derived from three intervals only, the Octave, Major third and fifth, from which not only is the Minor mode itself produced, but the whole harmonic material of the major and minor modes. These three intervals constitute the major common chord, but by a purely mechanical and arbitrary process of linking, thus—

Ex. 3. F a C e G b D

we have the same triad appearing as both Tonic, Dominant and Subdominant Triads. (NOTE.—It might be mentioned that the third of the chord Hauptmann distinguishes by a small letter.)

Confined as this may be to a mere harmonic display, there would be nothing wrong, but when it is made a process of key *derivation* as in the following—

Ex. 4. B♭ d F a C e G b D f♯ A, &c.

it represents what is not really a matter of fact. The Key of B♭ for instance is not really *derived* from the Key of C. What we call Keys are simply *duplicates* of some central or pattern key with which they may have more or less in common, according to the standpoint adopted as key note. We may say, therefore, that this application of the Major Triad as generating unity for all other triads, Major and Minor, as well as the whole material of both Major and Minor modes, may be classified as *False Premise No.* 2, and this False Premise again, it may be observed, leads to others.

FALSE PREMISE NO. 3. ONE MODE ONLY.

Hauptmann as a result of his system recognises only one *third* (the Major), and therefore only one *mode*. He says in his letters to Hauser (Vol. I., p. 173). "Formerly there were twelve or eighteen modes, now we have only one, but in that one an unending variety."

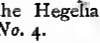
In this I think Hauptmann certainly ignores the teachings of Tonality in its minor phase, which, though to a certain extent artificially wrought, as indeed was the major from the system of ancient modes, is still part of the duality of the modes, which in our modern European system unite to form what we call the sensation of key or Tonality. Hauptmann speaks of the feminine principle in music. Let us apply that idea to Tonality, and we may discern the dominating masculine element in the major, and the feminine in the minor phase.

Hauptmann's recognition of one mode only, therefore, I would say is *False Premise No.* 3. We have said before that Hauptmann develops his harmonic material out of the Triad.

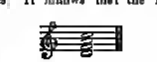
FALSE PREMISE NO. 4.—THE TRIAD MISINTERPRETED.

The constituents of this triad he invests with the following Hegelian properties, *i.e.*, the *root* as generating unity, the *fifth* as opposite or antithesis, and the *third* as reconciling unity. Now, *melodically* conceived, it is possible to imagine the fifth setting itself up in opposition to the Root, but when struck together this idea vanishes, and in place of it we have the bare harmonic substantiation of the feeling of tonality in that sensation which is so apt to appear with penetrating distinctness in the *pons asinorum* known as consecutive fifths. Then again the third does not reconcile in any way, there is no harmonic reconciliation wanted, but what *is* wanted is definition of the *mode* and that is what the major or minor third supplies, that is, the masculine or feminine element necessary to make the chord complete is not present. This wrong application of the Hegelian motives I shall call therefore *False Premise No.* 4.

NOTE.—The word *Root* in the present paper is used in an *esthetic* sense only. I would define Root as that note from which the harmonic superstructure is esthetically developed or generated on logical lines. It follows that the base of a secondary structure such as



is not a root, since the logical continuation of such chord according to the key suggested (say A minor) must of necessity include one note, the Dominant (E),



The *implied* connection with this Dominant imparts to the chord a power (more or less definite) of bearing upon or determining the key, and it is this determining power of the Dominant which thus gives it the unique property of a generating note or root. The Dominant thus is the only generating root. Major (except the Dominant) and Minor Triads have not a root in this sense, since they have no bearing power—they have merely a "*Ground Tone.*"

(For the Diminished Triad see Section on the same.)

FALSE PREMISE NO. 5

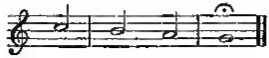
is the *non-recognition* of equal Temperament in a system of Harmony which, as I have said, is in its essence based upon Temperament.

You will remember that Premise No. 1 arises from the limiting of all intervals to those of the octave, fifth and third. Hauptmann's non-recognition of equal temperament in harmony is best expressed by an extract from one of his letters (Vol. II., pp. 27 and 28). He says: "Although the difference expressed by the ratio 80 : 81 (the so-called syntonic comma) seems a small one, it is in reality very important; it is the difference between *e* as, for instance, the third of C, and E the fifth of A, not of the C minor Triad (our A minor Triad—*Lecturer*) with this C $\overset{64 : 80}{a\ C\ e}$ $\overset{4 : 5}{}$ for in that case it would be the third, but of the A major Triad, reached by a series of fifths from C = $\overset{1}{C}\ \overset{3}{G}\ \overset{9}{D}\ \overset{27}{A}\ \overset{81}{E}$.

"On the pianoforte it becomes the same note by temperament, but the singer does not temper; he takes either the one or the other, and if he takes one of them in a melodic sense, while the harmony demands the other, he palpably sings out of tune.

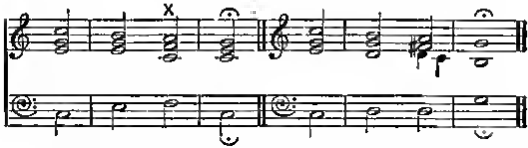
"When the Chorale 'Ach Gott und Herr' is accompanied in C—

Ex. 5.



the A is the third of F major, but in the transition to G major—

Ex. 6.



it is the fifth of D; in the first instance it is eighty, in the second eighty-one. Should the singer have thought of the *a* as a third of *f*, it would be too flat for the D major, and he will have to glide into the fifth of D, for to remain between the two, as the pianoforte tuner is obliged to (so that all

thirds are too large and all fifths too small on the tempered keyboard), is a thing a singer cannot possibly do, without singing false.

"So it is not at all true to say that the above melody may be treated in either way, for a different melody is produced by each treatment, and yet only one of these can be required."

Just so,—fortunately or unfortunately as it may be—our European system of Harmony is not built upon a Duplicate Diatonic Scale, and therefore the introduction of the idea is beside the point—since *neither* of these melodies, as a whole, would be possible in Equal Temperament. We are given to understand indeed that a division of at least fifty-three intervals to the Octave would be necessary to approach nearly the idea of a perfect scale. All that I would be inclined to say as to that is, that when the fifty-three intervals to the Octave become universal, the system of Harmony then obtaining will not resemble what is in use at the present time. I need only point out that in Hauptmann's arrangement the duplicate values would provide two different Tonics for the Keys of A minor and of A major, which in *principle*, at least, strikes at the root of the necessary *unity* in Modern Tonality, and that Mr. Goddard has shown that Mr. Colin Brown's system of Temperament, as first laid out, necessitates a complete duplicate scale of the key of the flat sixth, when a modulation is made to that key.

Hauptmann says in another of his letters (Vol. II., p. 88), referring to the authors Marx, G. Weber and André: "What rubbish is their stereotyped talk about the circle of fifths and about Temperament being indispensable to our music," from which Hauptmann's attitude may be well seen. It is well known that twelve perfect fifths do not fit into the Octave, and never can, were they multiplied into infinity, but, on the other hand, neither can any system of harmony founded on ideal or duplicate values lead to anywhere but divergence infinitely multiplied. Hauptmann in his system (as will be seen later on) is perpetually compromising one value for another, and the question naturally arises, what is the use of introducing these duplicate values if they have to be compromised hereafter? What, indeed, is the use of introducing a factor at one end if it is to be struck off at the other—it does not serve the function of x in an algebraical calculation, since there is no unknown quantity, and I do not believe that duplicate values in actual practice are really perpetrated or observed.* What purpose, then, does this fictitious introduction of duplicate bases serve? Well, as I have said, I

* Duplicate values are of course recognised in *melodic* passages—but not, I would say, in *Harmony as a whole*. The conscious or unconscious standard in the unaccompanied singing of Ex. 6 would, nowadays at least, be that of equal temperament, and any deviation would be felt *as such*.

am inclined to think that it is merely in order to support the position taken up in False Premise No. 1. Duplicate values yield Duplicate Tonalities, and both imply the *Dis-unity* of Tonality, which necessarily is a result of the adoption of an intermediate Factor, the Triad, in place of the paramount Factor, Key or Tonality.

ACOUSTICAL IDENTITIES.

Hauptmann says in another letter (Vol. II., p. 51) that "the $\overset{2}{e}$ in $_{+}$the A minor chord has actually nothing in common with the E when it occurs in the series of fifths, but is in fact a part of the C major triad, and is the pure fifth of the *a* which belongs to the chord of F."

Ex. 7. F a C $\overset{2}{e}$ G b D f$\sharp$ A c$\sharp$ $\overset{\sharp}{E}$

That is, in other words, the constituents of the chord of A minor are, acoustically speaking, identical with the same intervals as occurring in the thirds of F and C, and the inference in Hauptmann's system is that because these acoustical values coincide, that therefore the chord of A minor has no independent existence, but is derived from the triad of C, and it is on this principle of acoustical identity that Hauptmann builds up the whole of his system. He indeed on the one hand avoids the *Scylla* of derivation of Harmony from the phenomena of Harmonics, only to fall athwart the *Charybdis* of acoustical identities.

Hauptmann's successors, however, fare not so well, for not content with the *Scylla* they must strike *Charybdis* also—but of that later.

FALSE PREMISE NO. 6.—HARMONIC REVERSION.

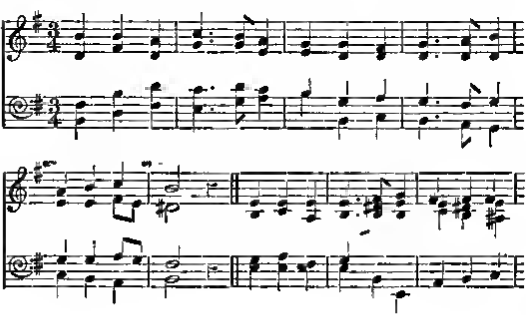
Well, we have got thus far—that Hauptmann derives everything from one chord, and that one with a major third, and the question arises, how then can the chord of A minor which has a minor third be derived from the chord of C major? Well, this is done, as I have said, by the very simple process of turning the chord upside down, when it coincides exactly with the chord in question. Of course it is quite apparent that this goes against all idea of common sense, and common sense, the final appeal for all argument, is evidently not always at a premium where philosophical investigations are concerned. And thus it happens that Hauptmann naively derives the chord of A minor by reversion from the major triad of C.

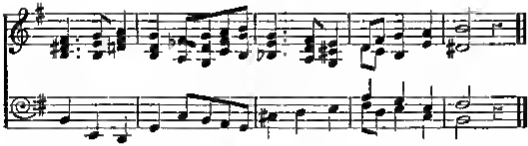
THE ARTIFICIAL PHONIC MODE.

Well, the idea of reversion once admitted brings in its train the systematic production, not only of the so called phonic chord in this instance, but of a scale called the phonic scale, and the whole system of harmony artificially derived from the same, called the phonic system. This is not a minor system, be it observed, and certainly it has no practical existence in art *as* a minor system, notwithstanding the efforts made by the disciples of the dual system in that direction. What we *do* get is the practical reproduction of the old Phrygian Mode (as named by Glareanus) with which the so-called Phonic Mode is practically identical. The latest publication harmonically developing this mode has just come to me through the kindness of my friend Mr. James E. Matthew, to whom and to Dr. Watson, of Manchester, as well as to Professor Niecks, of Edinburgh, I am much indebted for the loan of rare works bearing on the subject. The title of this work is "*Symmetrical Inversion in Music*," by Hermann Schroder, 1902.

We are accustomed to the idea of inversion as a justifiable contrapuntal device as concerned with melody only, and to the term "Inversion" (a decided misnomer) as applied to different positions of the same chord, and though Mr. Schröder mentions the works of Bernhard Ziehn and Oscar Fleischer, who with Oettingen and Riemann have endeavoured to develop the system, I believe this work to which I must refer you is the first to go systematically into detail on this part of the subject. Allow me to give you a quotation in the shape of "God save the King," in which, of course, not only is the melody inverted, but the harmony to some extent also in accordance with the phonic mode:—

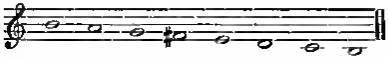
Ex. 8.





NOTE.—The pure Phonic or Phrygian Mode of the above would be as follows :—

Ex. 9.



For the various methods of inversion or reversion, I must refer you to the different examples in the book mentioned.

To resume: the derivation of the minor triad brings in as a natural consequence what I have already spoken of, viz., the False Premise No. 6—that of Harmonic Reversion.

Melodic Inversion or Reversion we know is possible, and was a prominent feature in Greek music, since their main idea of a scale was by taking it downwards, but *harmonic* inversion or reversion is totally opposed to our modern European system of Harmony, and therefore when Hauptmann is speaking *harmonically* of an under fifth, we know that he is speaking of what is a practical impossibility, but which may be allowed as a postulate for the sake of argument.

HAUPTMANN'S WORK DETAILED.

We shall now proceed to consider such points in Hauptmann's "Magnum Opus"* as may be necessary to explain the Theory of Dualism as developed by him. (The various paragraphs in Hauptmann's work are referred to within brackets.)

A NON-ACOUSTICAL THEORY (Hp., Introd.).

To begin with, Hauptmann, as I have already inferred, disregards the partial tone theory principally because (1) the whole series must be taken in, if at all, (2) because notes in the series do not coincide with our system, (3) because the minor triad cannot be directly derived from the Unity first assumed as Root, (4) because the true theory of Harmony is based on an *inward* law, one law which operates universally, not only in Harmony, but in melody and rhythm. As regards the last two subjects I shall of course not speak.

* "The Nature of Harmony and Metre," translated by W. E Heathcote, M A. (Swan Sonnenschein & Co.)

KEY, AS A "UNITY OF TRIADS" (Hp., pars. 10-21).

I have already mentioned, in False Premise No. 4, the properties attributed by Hauptmann to the common chord. We shall now consider the idea of key as consisting of, or as represented by, a Triad of Triads thus, as in—

Ex. 10. F a C e G b D

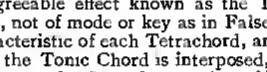
in which the idea of *unity* is found in the central triad as a whole, the idea of *antithesis*, or fifth notion as it is called, in the fact that the root of the central triad appears as fifth of the Subdominant Triad, and the fifth of the Central Triad appears as root of the Dominant Triad, *i.e.*, the Central Triad which is first *Unity*, as he calls it, is said to fall apart through the opposition of its two Dominant chords, *or*, the disconnection or *antithesis* of the outer chords of the Subdominant and Dominant, Hauptmann says, "essentially consists in the contradiction of (arising from) the double meaning of the unit chord C e G," (see also quotations in Pole, pp. 207, 208), and lastly we have the *uniting third* element, which is shown in the co-relation of the other two triads to the central one.

TRIAD DIS-UNITY OF TETRACHORDAL ORIGIN.

This idea of Triad disunity may sound somewhat plausible, but the disconnection of the Subdominant and Dominant Triads is not because of the double meaning of a connecting triad, but because of the Tetrachordal construction of our scales.

If we take the two outer chords by themselves only, we have the disagreeable effect known as the Tritone, arising from confusion, not of mode or key as in False Relation, but of chords characteristic of each Tetrachord, and the solution is found when the Tonic Chord is interposed, so that Tetrachordality, so to speak, gives place to that of Tonality.

Ex. 11.



It is not a question of developed *fifth notion* or antithesis against the Tonic, as Hauptmann would have it, but of Tetrachordal effect, replaced by definite effect of Tonality.

THE MINOR TRIAD AS NEGATIVE UNITY (Hp., pars. 31, 35).

We now proceed to the consideration of the Minor Triad which Hauptmann develops from the Major. We are asked to compare the triads of C and of A Minor, and to note that C and E form an interval of a third in both, but that the E

is third in one and fifth in the other. Hauptmann proceeds to say that E being thus doubly determined, may be *negatively* considered as doubly determining, *i.e.*, in an *active* sense as opposed to a *passive*. The E therefore appears in the guise of what he calls a "negative unity," and then he goes on to say, that because the Minor Triad must be considered to originate from a negative unity, that it must be held to "consist of a construction backwards," *i.e.*, the Major Triad of C produces by this process the Minor Triad of A.

No further substantiation is given in favour of this extraordinary reasoning. As to the idea of *negative unity*, such a thing may be indeed considered as a contradiction of terms.

When we speak of electricity as divisible into negative and positive forms, it is with the idea of considering them as phases of the same force, just as heat, light, and sound may be considered as phases or forms of energy.

But in harmony we consider each major or minor triad, when isolated, as suggesting at once not one and the same key, but *the* key of which it is the tonic chord, *i.e.*, the question of Tonality comes into play; but with Hauptmann, indeed, throughout, the larger and predominating question of Tonality seems to be mostly ignored, and hence in this case it comes about that what we would call the tonic chords of C, and of A minor representing two respective tonalities, are considered as representing only *one* tonality, instead of two, which of course is opposed to all modern consensus of opinion.

Mr. Heathcote, in his Introductory Essay (p. 22) says, "the true view is that the negative is produced out of the positive, or rather positive and negative appear together in the prime unity," and of course this would stand perfectly well as a philosophical explanation, if the idea were true in fact.

EVOLUTION OF HARMONIC FORMATION.

With regard to this idea of construction backwards, suppose we consider the question for a moment *de novo*, regarding the time when only melody existed:

The first step in the evolution of Harmony might be said to be the instinctive murmuring of another independent part in pleasant consonance with the melody. Now, is it possible to imagine that this part was added *above* the melody? No; because it needs no stretch of imagination to know that in such a case the melody would practically cease to be such, becoming, indeed, simply a bass part.

I believe that it is along the line of the instinctive addition of a bass part to a melody that Harmony has originated, that is to say, the sense of looking for Harmonic combinations has always been from below, and not from above; therefore it is contrary to reason as based upon universal

instinct to look for harmonisation in the contrary direction. It would follow that the minor chord cannot be dependent upon, or derived from the major.

MINOR KEY (Hp., pars. 37, 38).

With regard to the minor key (and still keeping up the idea of negative and positive), the idea is now presented to us as the unfolding of a series of Triads.

Ex. 12. F $a\flat$ C $e\flat$ G b D

Taking the element of negative as *principal* determination, we commence on this occasion from a *Minor* Triad; and the triads developed by inversion on the left hand will of course be minor, while those on the right or positive side will be major. Hauptmann then proceeds to say (par. 41), "The major key will pass into other keys. The minor key is isolated, without the power of passage into others," and also to the effect that with the major system, a system of secondary keys is possible, but not so from a minor point of view,—"because they would abolish the principal key itself."

FALLACY OF LINKING SYSTEM.

This extraordinary position is taken up simply because connection with the key of the Dominant Minor is impossible through the Chord of the Dominant, which of course is major, and as Hauptmann's system is founded on the establishment of acoustical identities and not on the independence of the minor mode of the keys, it is impossible to show any connection with the secondary key of the Dominant Minor. The real reason, as I have hinted, is that the key of the Dominant is always a strongly-contrasted key as compared with the closely-related key of the Subdominant, and this contrast is increased in the *minor* mode of the Dominant. I would be inclined to say that this inability in Hauptmann's system to give the Dominant Minor as a secondary key is certainly an argument against its validity.

This is how the lack of connection is shown in his system:—

Ex. 13.

C major			F	a	C	e	G	b	D	f♯	A		
C minor			F	a♭	C	e♭	G	b	D	f♯	A		
F minor	B♭	d♭	F	a♭	C	e	G	b	D	f♯	A		
G minor					C	e♭	G	b♭	D	f♯	A		

Here we have three minor keys displayed. It will be noted that the Dominant Chord in each is *Major*, also that the Tonic Chord of G minor does not coincide with the Dominant Chord of C minor.

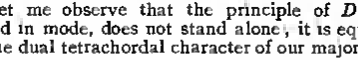
The key of G minor, therefore, according to this system of identities, is not connected with that of C minor. Comment on this of course is needless.

It will be noticed also that I have added the C major system, and continued the major triads on the triad, according to rule, in order to show one thing that is possible in Hauptmann's system, but which Hauptmann himself does not show, and that is the substantiation of the identity of the Tonality of C Major and Minor by means of the Dominant Major chord, which here is shown common to both.

THE DUAL ELEMENT IN SCALE, KEY AND CHORD.

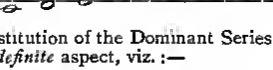
Here let me observe that the principle of *Duality*, as manifested in mode, does not stand alone, it is equally well seen in the dual tetrachordal character of our major scale—

Ex. 14.



and in the constitution of the Dominant Series of thirds as of *definite* and *indefinite* aspect, viz. :—

Ex. 15.



But though it is possible to pourtray this dual element in its divided state, a proper view of the phenomenon in which it is observed is not possible without unity of the two phases. (1) A view of the modern major scale is not possible unless the two Tetrachords are taken as a whole, and (2) a consistent view of modern tonality is not possible unless the constant fluctuation of Major and Minor elements with the same tonic is recognised. (3) No logical explanation of the system of chords in one key is possible unless the *whole* and not the half of the Dominant system of thirds be considered as a foundation. (4) Neither is any recognition of such system complete without the admission of the minor element in the same. The first principles of the Harmonic Art stand out quite rationally and in a logical manner, and do not need in any way distorted reference to any system founded on acoustical identities or the phenomena of Upper Partials.

HEGELIAN VIEW OF THE SAME.

If we apply the Hegelian simile first to the scale, *i.e.*, to the key in its *melodic* aspect, then (1) the *generating unity* may be thought of as existing in the characteristic tetrachord (see Ex. 14) containing the leading note, (2) the *antithesis* in the lower section tending to lead into the key of the Subdominant, and (3) the unity or reconcilement of the whole, when the disjointed effect of the tetrachord gives way to the *Tonality* effect of the whole scale. Again, with regard to the *chordal* aspect of a key, we have (1) the Tonic Chord as *unity*, (2) the Dominant series of Thirds as *antithesis*, and (3) the resolution of the same again on the Tonic as *reconcilement*. The same principle again in a minuter degree appears in the division of the Dominant Series itself, *before the question of key is settled*, viz.: (1) with the lower series as Principal Factor confronted (2) by the upper series as *antithesis* (see Ex. 15), the constituents of which (3) may resolve on the same basis before the primal form of the seventh is again reached as reconcilement. *The key*, again, viewed as a whole, (1) affords in the triads common to its major mode, its *Generating Unity* (2) in those characteristic of the minor mode, its *antithesis*, and (3) in the series built on the Dominant as common to both, its reconciling element. I have brought together these Hegelian metaphors to show that they afford a correct philosophical basis when rightly applied in the light of modern tonality.

HAUPTMANN'S ARTIFICIAL MINOR MODES (Hp., par. 43).

It is curious to note that Hauptmann avoids the admission of what are called the chromatic chords as derived from the minor mode. He cannot admit a minor chord in a major key, so he ingeniously formulates a new key (called the *Minor-Major*), which contains a major third, minor sixth, and major seventh, formulated thus:—

Ex. 16.

C E♭ G A♭ D F♯ A = G A B C D E♭ F♯ G

This key of the Minor-Major is said to be not often used, but that it occurs when the Diminished seventh is followed by the *major* chord of the Tonic.

Hauptmann has in his Introduction a most noteworthy and, for his times, far-seeing paragraph. He says, "No rational person can talk about conventional definition of chords, arrangements of a key or scale, arbitrary changes, raising or lowering the degrees of sounds given by nature, &c., though these are common terms in the mouths of people who are sane upon other subjects," and concerning which

he says in one of his letters (Vol. II., p. 88), "I wonder how Marx, Gottfreid, Weber, and A. André will appreciate such a compliment."

Unfortunately, the term "conventional determination of key" is the only one that can be applied to the manufacture of the *Minor-Major*, and poor Hauptmann, if he had lived till to-day, would have seen his disciples Riemann, as well as Richter and Jadassohn and others, making full use of the idea of chromatic alteration and other illogical expedients.

JOINING THE LIMITS OF THE KEY (Hp., pars. 46, 47, 51).

Hauptmann admits two diminished triads within the key, the one on the leading note, which, following the principles of Rameau, he regards as consisting of portions of the Dominant and Subdominant Triads, thus:—

Ex. 17. F | a C e G b D

in which the F is brought over to the b D, thus—b D | F. The chord thus formed is said to include the limits of the key and to have the property of closing up the key within itself, and is justified in the Hegelian manner by regarding the Triads of IV. and V. as separated (as you will recollect), but reconciled by the process of joining the limits. The other Dissonant Triad is shown thus:—

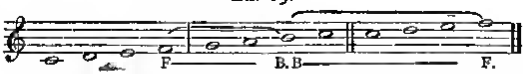
Ex. 18. F a | C e G b D

in which, by again joining the limits, the F a of IV. is brought over to the D of V., resulting in D | F a, in which you will see from the small letter that *a* has third and not fifth meaning. If this duplicate triad is dissonant in true intonation, then in our tempered system we have a gain, since it is consonant. Moreover, as I have said, seeing that our system of Harmony is not founded on a duplicate scale, there is nothing to be gained from its introduction.

THE DIMINISHED TRIAD A TETRACHORDAL PRODUCT.

As the Diminished Triad seems to be such a stumbling-block in many systems of Harmony, I might point out the dissonant effect of the same, as in the Tritone, is derived simply from the tetrachordal constitution of our scale. Taking the two tetrachords thus:—

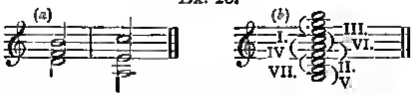
Ex. 19.



we have in the Dominant Section the *b* not only as sensitive or leading note of the upper tetrachord, but also as leading note of the whole scale it is doubly sensitive; it does not clash with the corresponding note E of the lower section, because that note is consonant *with the notion of key as a whole, i.e.*, as represented in the chord of the Tonic, but it does clash with F, because F is dissonant with this same characteristic chord, thus F is the real sensitive note of the lower tetrachord in this connection, and it is the clashing of these two sensitive notes which we have presented to us in the Diminished Triad. The Diminished Triad, therefore, as diatonically existing within the key, is no incomplete chord of the Dominant or leading seventh,—or, as Hauptmann and Rameau would have it, a compound of two triads—but simply an undigested tetrachordal product. We have only to add to it either of the two remaining available notes, G or A, and the *Tonal* effect as contrasted with *Tetrachordal* effect is established in the chords G B D F (the Dominant seventh) or B D F A (the leading seventh), *definitely* in the first, but *indefinitely* in the latter.

Sir G. Macfarren also thought it necessary to account for the Diminished and Augmented Triads of the Diatonic System as being incomplete forms of Dominant Discords, because they happen under certain circumstances to imitate this class of chord, and because, in his own words, "they can all be accounted for by deduction from the series of harmonics"; but I need not repeat that that kind of derivation proves nothing. Harmonically speaking, the Diminished Triad can be differentiated from the Dominant seventh by its not possessing within the key the cadential leap in the bass, which, together with the upward movement of the leading note, is a characteristic of the regular resolution of the Dominant Discord; when it does leap a fifth downwards in the bass it simulates at once the resolution of a Discord from the relative minor, thus:—

Ex. 20.



There is just as much reason for the existence of individual independent triads within the key as there is for the aggregate dependent and interlaced collection of triads superimposed on the Dominant, as in Ex. 20*b*, they both serve one purpose, and unity is equally attained in their resolution *within* the key.

EXTENSION OF KEY LIMITS—CHROMATIC CHORDS.
(Hp., pars. 54-57.)

Hauptmann shows the derivation of chromatic chords from the Dominant key by stretching out, or rather shifting, the centre of the key system thus:—

Ex. 21. a C e G b D f♯

in which the central triad is that of *e*, and in which as yet f♯ is only chromatic. The chords resulting by joining the limits are D | f♯ a and f♯ | a C; these do not correspond with their duplicates D f♯ A and f♯ A | c, as the latter are only obtained when a definite change of key has been made by shifting the centre chord for that of G, as in—

Ex. 22. C e G b D f♯ A

Then, again, by stretching out the system to the Subdominant side other chords arise, noteworthily those in the minor. On the Dominant side (pars. 60, 61) we have—

Ex. 23. a♭ C e♭ G b D f♯

from which, by again joining the limits D f♯ | a♭ and f♯ | a♭ C are obtained as combinations embodying the chord of the augmented sixth, thus this disputed chord is here derived as a combination of the Minor Subdominant and Dominant Major Triads. It will be remembered in this connection that Dr. Day explained the augmented sixth as a combination from the different Dominant Series, built up on the Dominant and on the Supertonic, as representing the keys of the Tonic and Dominant respectively. The double-key theory in both instances is, I need not say, perfectly arbitrary; in the one case it is built on the pourtrayal of acoustical identities, combined with the arbitrary process of harmonic reversion, in the other on the independent acoustical phenomena of harmonics.

MAJOR SCALE—TETRACHORDAL DIFFICULTIES.

With regard to the *Major Scale*, I may say that Hauptmann considers (par. 63) that melodic intervals are only *harmonic* determinations, and acting on this principle he traces some harmonic connection, direct or indirect, between each note of the scale till he comes to the sixth and seventh degrees, when recourse is had to a somewhat far-fetched explanation (par. 67). It seems to me that a much simpler explanation is to be had when the tetrachordal constitution of the scale is considered, when the connection, for instance,

between A (VI.) and B (VII.) can be said to be the same as that between D (II.) and E (III.) in the lower tetrachord—the apparent discontinuity between A and B of the scale is felt when the F is heard previously, whereby the false relation of the tetrachord is experienced. Hauptmann (par. 73) blames the disconnected *a b*, *i.e.*, the sixth and seventh degrees, for the bad effect of the augmented interval F—B, which effect, with the A B also, is absent on the diminished interval B to F. The real reason of the difference is the preponderance of pure *Tetrachordal* effect in the augmented F g A B, and of *Tonality* effect in the Diminished B c d e F, since the latter contains the leading note-step of *both* sections and the augmented formula has no such tonal uniting effect. In the former we have the False Relation of the Tetrachords, in the latter unity of the Tetrachords and consequent definite effect of Tonality.

HARMONIC MINOR IGNORED (Hp., pars. 74-79).

Hauptmann goes on to account for the "Scale of the Minor Key" in a manner similar to that used for the major scale, but the minor scale is the one known as the *Melodic* Minor. The Minor Scale or Harmonic Minor Hauptmann totally ignores, and in place of giving the only scale which will satisfactorily account for Harmonic Minor Phenomena from our standpoint of modern Tonality, he prefers to invent new scales, one of which, the *Major-Minor*, I have already mentioned, the other (par. 82) called the *Minor-Major* Scale, in ascending C D e F B A b C—C B♭ a♭ G F E D, but has a minor seventh and sixth, and a major third in descending.

TRIAD VERSUS KEY AS GENERATING UNITY.

Speaking of the Scale generally (par. 85), Hauptmann denies that it is naturally given in the series of harmonics, because the elements of the triad are not present "in the sense of a determination complete in itself," and as the arithmetical note progression in ratios of 1, 2, 3, 4, 5, &c., will not generate any chord on the Subdominant side, neither is that available—both forms, he says, are "self-generating and reasonable determinations of sound," something higher than being "naturally given" or "artificially made."

Hegel says in his "Logic" that "Nothing really exists which is not *self-determined* and *self-related*," and this certainly applies to the scale, but everything depends upon the unity adopted. You will remember that Hauptmann adopts the triad as generating unity. To my mind, however, the application of Hegelian principles demands the adoption of *key* as unity, of which the scale is the *melodic* representation, and the chords capable of being formed within the key the

harmonic representation. Both phases of representation are interchangeable. Harmony is melody in the concrete: Melody is disintegrated Harmony.

But, melody came first and generated the *sense* of Key, and the key again, by combination within itself, generated the Triad—therefore, though the Triad *may* be described, as Hauptmann says, as a "reasonable determination of sound," it is *not* "self-generating," but merely a secondary product.

MECHANICAL HARMONIC STRUCTURES.

Hauptmann's adoption of a single triad as generating unity lands him at once in difficulties; he is obliged to include an element formed backwards, namely, the Subdominant Chord (par. 85), regardless of the fact that such construction is against all principles of *harmonic* constitution. The Subdominant Triad is merely the simplest independent definite formation which can exist on that note of the scale, and, as representing the Subdominant key,—that key is like any other—merely a duplication of the central key, at a distance agreed on from that centre. The basis of each can be fixed in any direction, but the *construction* must be formed upwards. It is quite possible by *mechanical* processes to deduce the whole diatonic material of the scale and key from the germ of the triad, or from a single note, once the principle of superimposition of the third is admitted. It is also possible by the process of chromatic alteration, which Hauptmann condemns, to produce the whole *chromatic* material of a key by the manipulation of a single chord or note—but you will allow that mechanical processes give no evidence of æsthetic relations, and therefore to found a whole theory of the *nature* of harmony upon an entirely mechanical process, as Hauptmann has done, as you will see, is entirely futile.

I am sorry to trouble you with these metaphysical explanations, but they are necessary to combat Hauptmann's wrong application of Hegelian principles, upon which his system is based.

CHORD SUCCESSION (Hp., pars. 86-89).

Hauptmann, in carrying out the principle of self-determination, as in the Scale applies the same to the succession of chords, which he says are only intelligible in so far as both can be referred to a common element which changes meaning during the passage.

CONSECUTIVE FIFTHS (Hp., par. 99).

When these are produced by consecutive triads, Hauptmann still adheres to the triad unit, and leaves out the larger question of Tonality, by saying that the bad effect comes from one *triad* trying to set itself up against another. He

limits the bad effect, however, to those fifths occurring at the distance of a major second, in which case there is no connecting link. Perhaps one might say, that when there *are* notes in common the preponderating diatonic element suggests a more *local* feeling; not only that, but when there is a leap in the bass there is generally a cadential effect, or the imitation of one, which has always a binding influence, and tends to limit the effect to the one key. The proof that it is a question of *tonality* comes in when any element capable of keeping the effect within the *key*, as in the case of a Dominant Discord, is used.

MELODIC DETERMINATION OF DISSONANCE (Hp., pars. 107, 108).

To proceed, Hauptmann defines Dissonance as a "Melodic Succession sounded simultaneously"—the meaning of Melodic here as opposed to Harmonic is attached to notes which cannot form part of a triad unit, and consequently the interval of the second, with its inversion, the seventh, is said to be the only *Melodic* Interval or Dissonance (*i.e.*, as not occurring within the Triad). In finding meanings for the members of the Scale, Hauptmann considers the second note, say D, as the fifth of the Dominant G.

The determination of this Dissonance falls upon the Dominant; with regard to the Tonic it is fifth,—with regard to the Supertonic the Dominant is Root. The *meaning* of Dissonance is shown by regarding the note both as fifth and Root simultaneously.

THE SEVENTH A UNION OF TRIADS (Hp., pars. 110, 111).

The chord of the seventh again he regards as a succession of two overlapping triads gathered into one chord, thus—

Ex. 24. a C e G

and here it is not a single note but an *interval* which is doubly determined, namely the centre one C to *e*. When the two triads are disjunct and have nothing in common (par. 121, 3), they can only be united as a seventh when the first one can be replaced by another related to both,—thus the process of forming the Dominant seventh from the chord of the Tonic c e G and the Diminished Triad b D | F is as follows (par. 122, 2):—

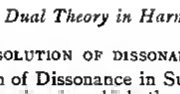
Ex. 25. C e G—b e G—$\overbrace{\text{b D G—b D}}$ | F = b D F G

(See also "Pole," p. 242—Rameau's view.)

RESOLUTION OF DISSONANCE.

In the Resolution of Dissonance in Suspension (pars. 125, 126) the double meaning in which the mediating G in the typical interval of the second C D, is both root and fifth, is rendered with the motion of the C to B, thus, B D; the uniting of the G with the D follows by means of the B.

Ex. 26.



With the resolution of the Dissonance of the seventh a similar process is observed, or a mediator is found in the seventh itself by the middle interval becoming consonant in the chord of resolution (pars. 130-133, 148b).

I do not wish to weary you with Hauptmann's reasons (pars. 119, 149-152) why a seventh *cannot* move obliquely into a unison and why it *can* issue as a second from a Root, but accepting the situation, we are asked to accept *that* as the reason why, in the construction of sevenths, those on the Subdominant side sound all right while those on the Dominant side sound "cross-grained, disjointed and filthy" (par. 153). The real reason is that those found on the

Ex. 27.

C e G—C D F a; D | F a to D e G b, e G b to e F a C

Subdominant are all more or less definite forms of the Dominant Discord, which acts as a unifying power, while of those which are filthy, as

Ex. 28. b D | F — a C e F
a C e — G b D e

the first one is a wrong resolution of the diminished fifth, and in the second as derived from a C e the only dissonant note *e* apart from the triad is continued as a *consonance* in the other chord, the Unifying effect of Dissonance is wanting, and therefore the consecutives are apparent.

SUCCESSION OF SEVENTHS.

We have not done with the progression of the passing seventh to and from the root, and the reason why the chords of the seventh in the Subdominant do not sound filthy is given out as being due to derivation from a succession of *sevenths*, as the mechanical process of deriving them from *triads* would bring about the progression of the seventh *to* the root in this manner. Take the first chord given, C D F a, a natural formation self-produced (as Hauptmann

would put it) from the disjunct triads C e G+D F a, in which the C is present as seventh. The mechanical linking is marked out in this manner—

Ex. 29. C e G—C e A—C F a—D | F a = C D | F a

during which it will be seen that the C ascends to the root D (par. 154).

But derive the chord from a succession of sevenths in this manner—

Ex. 30. C e G—C e G a—C e F a—C D | F a

and the root of the triad D | F a is produced "not by the ascent of C (the seventh), but by the descent of *e* which as seventh of F had to resolve downwards on D" (par. 155, 2).

I do not know if you find this kind of thing satisfactory, but to me this very compound origin with abstraction of relationship four or five times removed seems somewhat absurd. As I have said, the non-fifthy progression from the first chord to the last is simply accounted for by the uniting power of the latter as a Dominant Discord.

THE DOMINANT SEVENTH.

I have already shown in Ex. 25 how the Dominant seventh was derived by linking a series of triads, one of these triads, however, was diminished.

It was not possible to trace a true derivation either through a succession of triads or sevenths on the *Dominant* side (pars. 156, 166), therefore Hauptmann must perforce account for it by what is called the union of the key limits, of which he says, "we must think of the key system as *turned about upon itself*. The *boundaries* placed *united* as *middle* make the *middle* come out *divided* as *boundaries* (pars. 172, 174), as in—

Ex. 31. F a C e G b D

which becomes (e) G b D | F a C (e). You will remember that the F in the B D | F constituent is independently derived as Root of the Subdominant Chord, and this character as Root is therefore said to account for the *freedom* of entry of the seventh in the Dominant seventh (pars. 178-180).

DUPLICATE CHORDS.

One peculiarity of Hauptmann's duplicate Scale notation is that he can thus distinguish between D F A | b belonging to A minor and *b D | F a* as belonging to C Major. But he stipulates that for good effect in the key of C the seventh should be at the top, otherwise the form would be that of a Minor (pars. 196-198).

The leading seventh b D | F a I might say is explained as a passage of the Tonic Triad into the Subdominant and Dominant Triads *at the same time*—that is, in both directions at once from the centre triad (par. 200).

DEGREE OF DISSONANCE.

Another peculiarity is his estimation of the Degree of Dissonance in a chord. We have said already that Dissonance was defined by Hauptmann as a Melodic Succession, as embodied in the interval of the second and seventh, sounded simultaneously (pars. 206-209).

The *degree* of Dissonance Hauptmann estimates according to the *closeness* of this interval of the second (whether major, minor, &c.). For instance, the chord containing the *minor* second E F, as in F a C e, is more dissonant than the chord of a C e G, which contains the *major* second G a, and that again is a degree more dissonant than the chord of the Diminished Seventh b D | F a♭ containing the augmented second a♭ b. The dissonance, it is said, depends on the disinclination of these various seconds to pass melodically into each other, and this melodic succession is again dependent on the motion of the various parts in linking the constituent triads forming the chord of the seventh, as for instance in D | F a C formed from D | F a and F a C, the C progresses to D, thus—

Ex. 32. F a C to F a D

and in which finally the second C D is present as seventh.

CHROMATIC RESOLUTION (Hp., par. 212).

As regards the Chromatic Resolution of Discords, Hauptmann is decidedly ahead of some, at least, of his contemporaries.

The *principle* recognised is that the constituent or notes forming the Dissonant Interval may *each* resolve by step of either a half or whole tone, singly or both at the same time, so long as both find their resolution in a Consonant Interval; for instance, C D may resolve in—

Ex. 33.

C e, c♯ E, b D, b♭ D, b♭ D♭ or B d♯

and so on, as they would when followed by the Discords

g♯ B | D f, G b♭ c♯ E, f♯ A | C c♭, F a♭ b D, &c.

One need only compute in how many ways the consonant interval referred to may be reached, and, again, into how many triads and discords this interval may be introduced, to find out what a vast field of possibilities there is in the resolution of a single dissonant interval.

Compare this with the one resolution at one time allowed by theorists, or with the very limited number allowed by those who fixed the chromatic relations of a key by what could be traced in the principal overtones of a given note, and we may trace the evolution of the foreign relations of a key from the beginning to the present, when with the principle of "Chromaticism" one may recognise *all* keys as harmonically related to the centre one.

There is another point, however, in which Hauptmann is well to the fore, and that is when he recognises that a "chromatic progression, as regards *harmony*, always leads into a new key system" (par. 213). This, coupled with the denial of the possibility of harmonic chromatic alteration, places him ahead of some of the Continental theorists of to-day.

PREPARATION IN TRANSPOSED AND UNTRANSPOSED SEVENTHS (Hp., pars. 214, 215).

In considering the sevenths belonging to the Untransposed and Transposed system, Hauptmann differentiates the two, mainly when the fifth appears in the Bass, which, he says, requires to be prepared in the former, but not in the latter (*i.e.*, in the sevenths on V., VII., and II.). The notion of transposition, he says, accounts for this. In the transposed system

Ex. 34. (e) G b D | F a C (e),

the D in the middle does not need to be prepared, because D and F though originally outer notes are now united as middle, and therefore count unseparated as both Root (F) and fifth (D) united together, which double meaning is supposed to obviate the necessity for preparation of the fifth element (par. 216).

But the question of preparation of Discords seems to be nowadays principally a question of artistic use, or viewed as a matter of evolution a prepared discord is simply an example of an earlier stage, as it were, when the ear had not yet become accustomed to the effect of the free entry of the same. The vagueness of the transposed sevenths no doubt comes from the *indefiniteness* of their Dominant origin, but in the transposed sevenths, viz., the Dominant and Leading sevenths, the Dominant origin is quite clear, and it naturally follows that any felt necessity for preparation of the Discord will linger longest where the *intention* of the discord is *least* clear.

It is therefore not a question of linking of meanings, or multiplicity of the same united, but of definiteness of leading or bearing power as originating over the Dominant combined with artistic perception.

HAUPTMANN'S MISTAKEN BASIS.

We have spoken of Duplicate chords. Hauptmann, in endeavouring to distinguish the chord of seventh D | F a C with D as fifth meaning from its synonym d F a C (par. 218) which has D with third, is very insistent on the necessity "that the thought of a complete and originally determined series of notes should be entirely dismissed" (par. 219). He says, "The chord is not determined by given notes, but they are themselves produced, *i.e.*, determined harmonically, through the vital weaving and working of the chord notion."

Just so, but this is only a half-truth, for there is a higher power than *chord notion*, and that is *key notion*, and the highest factor is naturally paramount. The key not only determines the chord, and the chord its constituent notes, but the key determines the whole—therefore the harmonic meaning of the least factor or chord constituent depends on its relationship to *key* as the highest factor, and Hauptmann's mistaken basis is that of determining everything according to the *intermediate* factor, the triad. Suppose that by the manipulation of one triad the various triads within the key be mechanically evolved; in that case the dominating influence of the factor *key* would come into play, and the combination of all these various triads into a complete series on the Dominant (the most important factor *within* the key) could not be ignored, as it is by Hauptmann, with whom the triad is unit, for, admitting this mechanical evolution of diatonic triads it would only be consistent to form in addition the *whole* series of the Dominant in the same way as in the horizontally depicted—

Ex. 35. G b D | F a C e G,

seeing that the *principle* of superimposition of thirds is admitted in the construction of the simplest common chord, though this admission would of course do away with the present explanation of secondary sevenths or other secondary discords.

ÆSTHETICAL STRUCTURE ON MECHANICAL BASIS.

There is indeed no harm in mechanically evolving harmonic combinations, only the mechanical must not be endowed with the æsthetical; one instance may be remembered where they clash, as in the Minor Chord, which, you will remember, was mechanically evolved from above, but æsthetically constructed from below (in recent times at least), for though Oettingen subsequently named the upper note of the minor chord as *principal* note, yet Riemann says (Riemann Dict., "Minor Chord") that the lowest as *fundamental* is not in doubt. These later views seem to clash somewhat with Hauptmann's (see pars. 197, 35 and 36), but

admitting the truth of them, there is not the slightest possible doubt that Hauptmann's theory of the *nature* of, as well as the construction of all Harmony is based upon the process of linking and the impractical assumption of double meanings.

DUPLICATE MEANINGS IN CONSECUTIVES.

Speaking of double meanings, here is another instance in which Hauptmann pushes the introduction of multiplicity of meaning to an extreme. He asserts we do not hear consecutive fifths in the following—

Ex. 36. C e G G — D F b a

because the a is felt as a third of the Subdominant and not as a fifth (par. 219). The real reason, one might say, is that the latter chord is clearly a Dominant Discord which has the effect of binding the key closely, and of preventing the setting up of another Tonality as suggested by the fifth D a.

I know that personally I cannot hear the *a* as third of F, the *b* of the Dominant Chord alone prevents that. Nor can I agree when Hauptmann says the opposite progression—

Ex. 37. D F b a — C E C G

is inadmissible because of the similar motion to the second or *real* fifth—an *exposed* fifth would be just as much bound by a preceding Dominant Discord as a consecutive one, but in this case the real factor is that the fifth of the first chord happens to be a ninth, and the bad effect heard is that of similar motion to the *resolution* of the same, and this similar motion annuls the binding effect of the previous Dominant Discord. In each case it is a question of the superior factor Tonality as opposed to that of its constituent the triad.

THE AUGMENTED SIXTH.

I have touched already upon the question of the augmented sixth, as arising from the extended key system in the Minor, with the Dominant as centre (pars. 223-233). You will remember that it was explained as resulting from the union of the limits of the key system D f♯ | A♭ or on the Subdominant side—

Ex. 38. f♯ | a♭ C.

What I would touch on here is the metaphysical meaning attributed to the Diminished third constituent f♯ | A♭ in which both notes are derived from G—the link for G a♭ is contained in C, to which G is fifth, and, on the other hand, the link for G f♯ is contained in D, to which G is root

Ex. 39. G . . . a♭ —— f♯ . . . . . G
C D

but as the interval is diminished the derivation from G must be, Hauptmann says, "simultaneously opposite," *i.e.*, by joining the limits. This he says would imply a contradiction, and upon this idea of contradiction of meanings he requires that, considered as a "directly intelligible harmonic construction," the augmented sixth should not have the f♯ a♮ present as a Diminished third (par. 228).*

Dr. Day some eight years earlier, in 1845, also prohibited the use of the inverted augmented sixth (though it was in common use among the great masters) on equally illogical grounds, namely, because as it was derived from primary and secondary harmonics, the secondary harmonic should not be below the primary.

HARMONIC AND CONTRAPUNTAL FORM.

Perhaps I may refer to my own explanation of the augmented sixth which has been given elsewhere, the gist of which is that the *fundamental* form of the three usually given, is the one occurring like the added sixth on the Subdominant, and consisting of a dual or mixed chord of the thirteenth, in which a ninth from the major mode is balanced by a thirteenth from the minor over the same Dominant Root (Ex. 40D), to which I would add that this purely harmonic form does not of course exclude those forms which, though *contrapuntally* evolved on the flat sixth and flat second, have become harmonically crystallized within the central key.

Moreover I would point out that while the harmonic form as derived from *other* keys can be chromatically used within the central key, the same principle would allow the use of borrowed or chromatic *contrapuntal* forms. If we investigate the history of the augmented sixth we find that it originated contrapuntally on the flat sixth, and was resolved *within* the key, either through the medium of a Dominant chord (Ex. 40E) or of a Tonic six-four chord (Ex. 40A). At a later stage in its evolution the ensuing Dominant chord became a *Tonic*, and thus the Chord on the Flat sixth resolved into and became chromatically attached to another key. The chord in its new relationship now appeared on the flat second of the key. Thus we have now Harmonic *and* Contrapuntal Forms which can be and *are* chromatically multiplied.

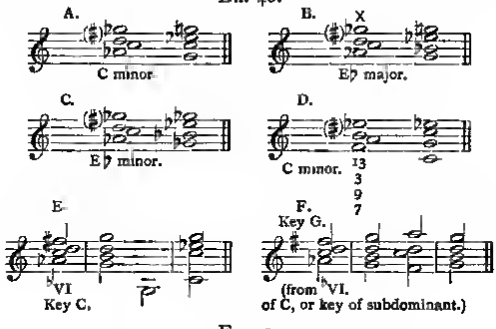
Again, although the purely harmonic form as a logically constituted chord can stand alone, it is interesting to note that it has probably been *evolved* in a similar manner to the above, but from the key of the Relative Minor, another proof

* In Ex. 39, where the f♯ | a♮ is given as Augmented Sixth, the reference is to two different G's, and hence the derivation is now not simultaneous, but "we hear the progression from the G which first *was* fifth and then *became* root"

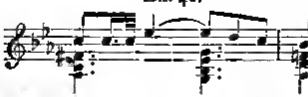
that the keys of the Subdominant and the Relative Minor are more nearly related than that of the Dominant (there *is* a contrapuntal form borrowed from the flat sixth of the Dominant [E♭ G A C♯ in the Tonic], authorized by Jadassohn, but it is marked *rare*). For evolutionary stages *see* progress of Ex. 40A to Ex. 40B (relative major), and to Ex. 40C (tonic minor), which is identical with Ex. 40D, except the latter has a "cadential resolution" by leap in the bass. For an example of Ex. 40B *see* Ex. 41 by Schubert (*circ.* 1820), and for example of the latest form (Ex. 40D, but resolved into tonic major) *see* well-known chord in the Introduction to Gounod's "Faust" (1859). I would add that multiplication of *Diatonic* contrapuntal forms is also possible, and only limited by the number of available chromatic notes within the key as representing all *possible* foreign relationships.*

As to the analysis of *synonymous* harmonic and contrapuntal forms—as with the contrapuntal F A B D♯ (A minor) and the harmonic F A B E♭ (key C)—the decision would rest upon whether harmonic or contrapuntal interest predominated.

Ex. 40.



Ex. 41.



* The Sixth itself, in the Contrapuntal Form, cannot be consistently analysed as third of a Dominant Root, &c., because that would imply the absurdity of a double *root*, but can be reasonably described as a chromatic auxiliary note which has become harmonically crystallized in connection with certain intervals or chords

One curious feature of Hauptmann's derivation is, that he evolves other chords of the augmented sixth, which he says are "self-excluded, as containing an inner contradiction" (par. 230). In these forms, however, we recognise Dominant Discords which are in ordinary use, one of them b D f♯ | A♭ as a chord of the Minor ninth and thirteenth (B D G♭ A♭).

THE AUGMENTED TRIAD (Hp., par. 234).

With regard to the Chord of the *Augmented Triad*, Hauptmann links it to its harmonic surroundings in a similar manner to that used for the augmented sixth, that is, by attributing a double meaning to the centre note G in the triad E♭ G B, and the linking on either side results in a connection with the augmented sixth, a connection which I need not detail however. Implied as a constituent of the Dominant Seventh with so-called raised fifth, he again prohibits the interval of the Diminished third as occurring in an uninverted form, as, *i.e.*, we find in c E g♯ | b♭, the reason assigned being again the "joining of the limits" (par. 237, 3).

THE HIGHER DISCORDS (Hp., par. 238).

Hauptmann begins his chapter on the chords of the ninth, eleventh and thirteenth with an if. "If," he says, "it is only the most closely related links of a progression that can be taken simultaneously as dissonance, and if, therefore, it is only two triads having a common interval that can unite to form a seventh chord, then no combination going beyond the harmony of the seventh is possible as a union of triads." Precisely so,—but in the first place, as I have shown, there is nothing so far which has justified such assumption.

Hauptmann has merely so far explained views of the time of Rameau by a mechanical process of linking, and his views of the ninth, eleventh and thirteenth are merely as of suspensions, that is, so to speak, of the early evolutionary form of all discords.

CONTRAPUNTAL EXPLANATION (Hp., par. 239).

He attempts to justify his view by a contrapuntal explanation by saying that while the chord of the ninth

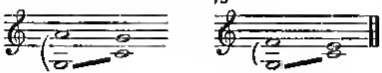
Ex. 42. G b D F a progresses to G b D F G

there is no resolution of the *a* to G, but only of b a to b G, *i.e.*, of the seventh above the third (otherwise the ninth) to a sixth above the same.

Furthermore, he says that the ninth G a can only be resolved by the G falling to F, or the *a* rising to *b*, or by movements of both at once; in this he ignores what may not possibly have been generally recognised in his time, viz., the

cadential resolution of *any* discord as seen in the leap of the lowest of the two notes forming a Minor or Dominant Seventh, the principle of which is just as much seen in the resolution of the ninth—

Ex. 43.

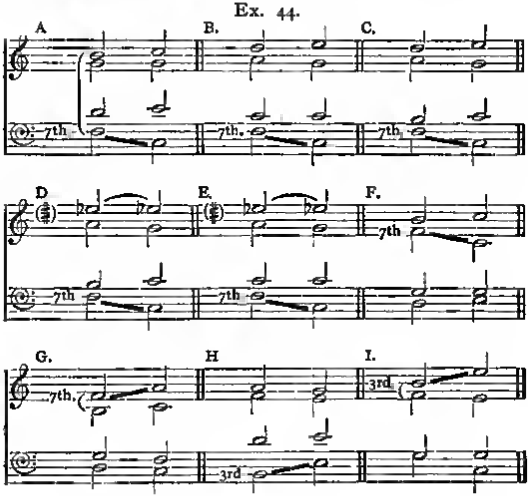


as in the seventh, and again just as much in the Augmented fourth and Diminished fifth as in Ex. 44 A, F and G.

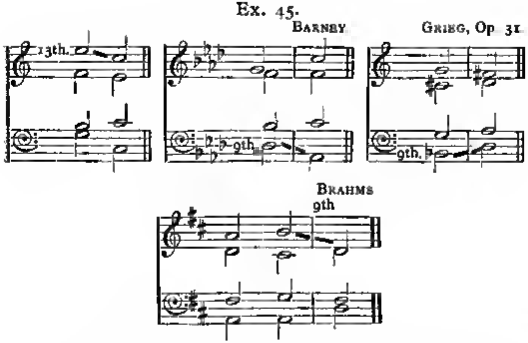
CADENTIAL RESOLUTION.

Theoretically speaking, both notes forming any dissonant interval as contained within any dominant discord should be resolved by step, but under the influence of a cadence, or the imitation of one, the ear is satisfied with the leap of one of the parts if the other part still progresses by step. This movement by leap is not confined to the Dominant as in the original position of the dominant seventh, but also occurs with other constituents, as, for instance, in the following "authorized" resolutions from Jadassohn:—

Ex. 44.



Ex. 45.



Note.—The double resolution by leap in Ex. 44I is accounted for by the fact that there are *two* dissonant intervals within the chord; the necessary progression by step is supplied by the seventh, which is common to both.

We have among these, resolutions by leap of the third, seventh, ninth and thirteenth of the series of Dominant Discords, and therefore Hauptmann's out-of-date compulsory resolution of all dissonant intervals above the seventh by step will not hold, and consequently the Basa note of the ninth or Dominant must be allowed to be a constituent part of the chord of the ninth, and not merely a Pedal note. In actual practice, too, of course the Bass is frequently unprepared, and therefore again cannot be classified as a persisting or Pedal note. Of course the ninth *may* occur over a Dominant Pedal, but the contrapuntal intrusion of a note does not nullify the possibility of estimating *all* notes *harmonically* that can be so classified. By *Harmonic* I mean purely perpendicular construction on strictly logical lines. All else is purely contrapuntal or horizontal intrusion.

REGARDING THE COMPLETE DOMINANT SERIES,

Hauptmann says (par. 239) that the superimposition of the series of thirds is similar to the derivation of harmonic combinations from a selection of the infinite series of numbers—both require previous knowledge. The idea *may* apply to the series of numbers, but the *principle* of the erection of thirds is derived from the actual evolution of harmonic combinations as such, and the recognition of the thirteenth is only the logical carrying through of that principle.

The completeness of the harmonic formula of the Dominant Series is best seen when we add the Octave as it were (as in the case of the scale):—

Ex. 46.

1	3	5	7	9	11	13	
G	b	d	f	a	c	e	G.

Hauptmann, in speaking of the Dominant Series in which the eleventh rejects the third, and the thirteenth the fifth, says that freedom to select from this series demonstrates "no generative principle of harmony." Quite so, but the predominant principle of this series of thirds is, that it bears on the Tonic or original centre, and this principle is not affected by the omission of certain clashing members, but the purely *harmonic* interest is strengthened by such omission. If the fifth is left to clash with the thirteenth, it may, or may not, according to the manner of entry, attract additional attention to the thirteenth, but the horizontal interest introduced in addition cannot affect the logical principle that in a purely harmonic or perpendicular analysis all intervals capable of perpendicular constitution should be so classified.

MODULATION.

We come now to *Modulation*, and in this Hauptmann consistently carries further forward his application of linked or manifold meanings, as for once he lucidly puts it (par. 255), "By changed meaning of the *note* is determined a new *interval*, and by changed meaning of the *interval* a new *chord*. Similarly, the changed meaning of the chord will determine of the new *key*." These changed meanings, however, cannot be arrived at without taking in *what follows*, and therefore, as he says, the converse is equally true, *i.e.*, "the key is what determines the meaning of the chord"; the chord the interval, and the interval the note. All this is quite true, we are on common ground when *æsthetic* interest only is considered. Where most of us would differ is in the application of the process of linking to the æsthetic interpretation of harmonic combinations. I need not trace Hauptmann's manner of passing from one key to another by means of chords with manifold meanings, but I might mention that he gives two kinds of modulation to remoter keys (par. 266), "One that advances from one key to the other, altogether leaving the seat of the first and settling in the region of the second, the other, that *transforms* the key to another within its own boundaries." With regard to the first, all inner connection ceases, as I have said, after progression to the keys of the Subdominant or Dominant, and the second one consists of taking what is common to

both keys and transposing the meaning. For instance, the connection of the key of A♭ with that of C is shown in the following (par. 272), in which it will be noticed that F C and G, which have *root* meaning in the first series, have *third* meaning in the second:—

Ex. 47. F a C e G b D,
D♭ f A♭ c E♭ g B♭.

One feature of Hauptmann's book (par. 278) is that he proves that the Subdominant key is more nearly related than the Dominant (he is not tied down, as are the successors of Day and Macfarren, to demonstrate the Relationship of Keys according to the Series of Harmonies). The Subdominant, Hauptmann says, "is already present and determined," and modulation to it is always easier than to the Dominant, though, of course, return from it is more difficult, since in returning to the Tonic it is then in the relation of Tonic to Dominant, while return from the Dominant makes it only a fourth below the Tonic, that is as Tonic again is to Subdominant.

Another extraordinary result of Hauptmann's system with its perpetual change of meanings is his prohibition of modulation from the Subdominant to the Dominant through the Supertonic seventh (par. 286), because in the progression F a C to f♯ A C D the *a* has to change from third meaning into fifth meaning, while on the other hand, by going from the Tonic Triad to C D f♯ A (the supertonic seventh with A in fifth meaning), a theoretical link is provided in the chord b D G in going to the Dominant side, by which no alteration of meaning is necessary. Hauptmann lays stress on the idea that it is owing to such difference of meanings that harsh modulations arise. I am inclined to think, however, that such deductions are quite obviated by equal temperament.

Hauptmann, again speaking of the enharmonic change, classifies it as belonging to the tempered and not to the pure note system, but surely the continual change of meanings necessary to make the pure note system fit with our system of harmony is a species of temperament in itself.

A SIMPLIFIED HAUPTMANN.

Before leaving the subject of Hauptmann, I should like to say that I hope some day to see Hauptmann's great work prescribed as part of the course for all candidates for University Honours in Music.

As the book exists at present, I am afraid it would be out of the question, but if we could have a simplified Hauptmann (as in Dr. Pole's and in Mr. Broadhouse's works), but

supplied with critical parallel columns, I believe the study of the same would be simply invaluable to all students of higher theoretical work. The subject of this branch as with other branches of æsthetics is, I am afraid, not very much studied in this country, and I am inclined to think that it deserves more attention than it secures at present.

SUBSEQUENT DEVELOPMENTS OF DUALISM.

We shall now proceed briefly to consider the subsequent development of the dual theory. To do this we must see what influence was exerted by the principal authorities who followed Hauptmann.

HELMHOLTZ ON TONALITY.

Helmholtz, whose work appeared ten years after that of Hauptmann, takes up at once a very definite standpoint on the question of Tonality, the practical influence of which Hauptmann seems to ignore.

Helmholtz says in the third part of his work, that "modern music has especially developed the principle of *Tonality*, and all the tones in a piece of music are strictly connected by their relationship to one chief tone called the Tonic." It will be seen later, however, that Helmholtz, as pointed out by Oettingen, is inconsistent, since in following Rameau he ascribes a double root to the Minor Triad with its natural consequent of dual tonality.

HELMHOLTZ ON ACOUSTICAL DERIVATION.

On the general question of acoustical derivation, despite a good deal of misapprehension on the part of others, he is also definite at least. He allows the natural basis of the major common chord, but is too doubtful about the acoustical minor seventh to admit its inclusion definitely in the chord of the Dominant seventh (see "Pole," pp. 243, 244). And again, he says in his introduction to the third edition, "To those who think I have not gone far enough in my physical explanation, I answer that I shall consider a theory which claimed to have shown that *all* the laws of modern thorough bass were natural necessities to stand condemned as having proved too much." Helmholtz was apparently afraid, however, to go the whole distance, and assert as a logical deduction that the structure of harmony was therefore *not* founded on a material or natural basis, but must be therefore an entirely æsthetical creation. He does indeed say (on p. 357) that "the network of harmony does not seem to rest on any immutable laws of nature," but rather upon æsthetical principles, but the scientist in him seems to get the upper hand, and we have no definite logical deduction on his part.

HELMHOLTZ, ÆSTHETIC VERSUS SCIENTIFIC BASIS.

The phenomena upon which any art or science rests must, despite any coincidences, be either entirely æsthetic or scientific, entirely psychological or physical. Helmholtz admits that it is the *psychological* motives which "have been generalised in the faulty mass of rules handed down to us," and he admits that it is *scientific* physics which alone have to do with technical phenomena, but he does not definitely divide the physical phenomena, which have to do with the production of the raw material of sound, from the art (as based upon psychological motives), which is concerned with the æsthetic manipulation of this material. We admit that art and science act and react one on the other, but on broad logical grounds it is absolutely necessary to make a dividing line according to their phenomena, and this it is that Helmholtz failed to do—but then there are other ways besides in which he did not see clearly, and that was in purely harmonic questions, in which, however, perhaps he did not really profess to be an authority.

THE MINOR TRIAD—BY HELMHOLTZ, RIEMANN, HOSTINSKY AND OETTINGEN.

For instance, in regard to the minor chord he follows somewhat after Rameau (see "Pole," pp. 232-234) in characterising the minor triad as a "troubled consonance." Helmholtz, as I have said, derives the minor chord of C from two roots, and of two suggested methods Helmholtz prefers to estimate the minor triad of C as a compound tone of C, with an added E♭, rather than as a compound tone of E♭ with an added C—that is C . . . . . G + E♭ . . . . . G; it is thus made up of portions of the triads both of C and E♭. And with regard to this attitude of Helmholtz, Riemann criticises the same, saying "this at once takes away the consonance of the chord, for however consonance he defined, *unity* as the cardinal point must not be lost sight of"; or, in other words, the all-important question of unity of Tonality, which Helmholtz so strongly emphasises elsewhere, is, when he comes to the minor and other chords, lightly set aside—the musician, I am afraid, becomes submerged in the scientist. As I pointed out, Helmholtz could not entirely throw off the acoustical trammels, and hence, when he comes to an intractable chord he prefers to find, if possible, the acoustical explanation, even if this is illogical from an æsthetic point of view.

Another writer, *Hostinsky*, goes farther than Helmholtz and derives the minor chord from three triads,—the C minor triad from the triads of C, E♭ and A♭. Oettingen, in his "System of Harmony dually developed" (1865), pointed out

the weak spot in Helmholtz's theory, which was practically, if the chord is to be explained on acoustical grounds, the undertones are as available as the overtones, and therefore Oettingen consistently derives it by inversion from the undertones.

Oettingen says, "in the interpretation of Harmony I agree with Hauptmann, only I believe—thanks to a solid natural basis—I have developed the essential parts of the system."

OETTINGEN'S PHONIC MODE.

Oettingen, however, adopted the theory of inversion, or rather of reversion, and named the upper note of the inverted triad as *principal note*, and further, produced by reversion the phonic mode, of which, as admitted by Riemann, no practical use has been made in *Art*. In Schroder's book, which I have referred to, well-known harmonized melodies are put into the phonic mode—and there is no reason why they should not be, as well as into any other mode, natural or artificial, that the composer pleases; the idea will add to the composer's resources,—only one should bear in mind that the phonic mode is not the minor mode, nor do the harmonic combinations possible in it come within the scope or treatment of the modern European system of harmony, and therefore as a creation it stands apart in itself, and proves nothing.

Helmholtz, speaking of Oettingen's phonic mode, which is written thus—

Ex. 48. C B♭ A♭ G F E♭ D♭ C

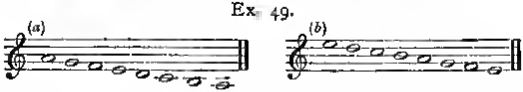
says that it does not contain the leading note so necessary for the definition of modern minor harmony, and points out that it is "still less consistent in its harmonization, and still more loosely connected" than the old minor mode. Helmholtz therefore considers himself entitled to ask that the principle should be justified by practice—concerning which I would repeat, that it does not matter whether the principle is put into practice or not, since the result stands outside the pale of modern European Harmony. The system is its own condemnation. The process is nullified in the result.

THE SOL-FA MINOR MODE.

It is interesting to note that Oettingen in his introduction says that possibly Curwen's system of Tonic Sol-fa may be a similar development to that of his own theory. One might say there is indeed some resemblance to that of Hauptmann and Oettingen, since the harmony of the minor mode in Curwen's system is based upon *la*, the sixth note of the major scale, and what we would call A Minor is by Curwen termed the Minor mode of C. Thus both Oettingen and Curwen

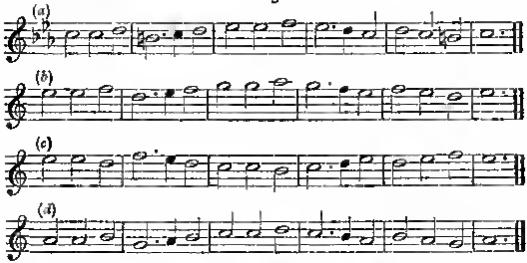
derive the minor mode from the Central Scale, with a different principal note. With Curwen, *la* or the submediant is the principal note (Ex. 49*a*), with Oettingen it is *me* or the mediant (Ex. 49*b*).

Ex. 49.



Curwen, however, does not construct by reversion, and certainly did not believe in acoustical derivation. He argues that the Relative Minor is nearer, because chromatic differences or duplicate values are avoided, but he is so unsound on the question of Tonality that he even cavils at Beethoven for beginning a piece in C major and ending in C minor. It seems to me that Curwen's system is all very well from a *melodic* point of view, and no doubt it is the easiest educational method of *approaching* the Minor Mode, but from a harmonic standpoint I am afraid it is deficient. His minor scale may have more in common with the major, but scales are really only secondary products. The feeling for tonality of key predominates in our day and the scale formula of the relative minor must therefore give way to one that will represent tonality, if nothing else. I had the pleasure of playing over to you an inverted version of "God save the King" as constructed in the Phonic Mode. It will be interesting to show here the four lines of the same as representing the different modes advocated from the same standpoint :—

Ex. 50.



A represents the melody in the Minor mode according to Modern Tonality.
B is in the old Phrygian mode, but uninverted.
C is in the Phonic mode of C—i.e., in the Phrygian mode and inverted.
D is in Curwen's "Minor mode of C."

HELMHOLTZ ON THE ADDED SIXTH.

Before leaving the subject of the minor Triad, we might say that it is not the only one that Helmholtz provides with a dual root or origin. Speaking of the minor triad of D, he says that it "has also, as a rule, only *d* as its root in all its inversions," but that in the chord of the added sixth, f+a—d, which name he gives to the incomplete form (see quotation, "Pole," "Great Sixth," p. 233, also p. 246), we may consider *f* as the root, and it is in this sense that it occurs in the cadence of C major. He follows this statement by saying that "the minor chord really admits of this double interpretation." He goes on to say that "when the intonation of the secondary seventh, d | f+a | c is just, *d* is dissonant with all, and as the triad f a c belongs to the compound tone of F, this decides him with Rameau in making *F* as root and *d* as the dissonant note which "is to be resolved by rising to *e*."

The minor chord (D | F a) and the added D | F a C with the A endowed with third instead of fifth meaning, may be dissonant in pure intonation, and may, as Helmholtz says, have the effect of a modulation in C major, but as our system of Harmony is founded on equal temperament, the chord can have no varying effect with us, and therefore it is only consistent that such harmonic explanation should be kept without our system. It is somewhat curious after Helmholtz's abortive attempt to give the support of the pure note system to the out-of-date views of Rameau, to find Riemann also adopting Rameau's phase of the Dual Theory by referring "every harmony to some major or minor chord to which a note has been added," or in which some note has been chromatically altered or replaced by a neighbouring diatonic note."

Riemann says that "from Rameau's system" it is only a small step to the recognition of all combinations as consonant chords, *i.e.* dissonant chords are estimated "not as independent formations, but as modifications of common chords," and it is still more curious to find that Dr. Pole, also in his Philosophy of Music, adopts also Rameau's illogical explanation of the added sixth and other chords ("Pole," pp. 237, 238).

Riemann in his so-called "Harmony Simplified" applies this phase of the Dual System in a practical sense, and invests it also with the acoustical basis supplied by Oettingen.

RIEMANN'S APPLICATION OF THE THEORY.

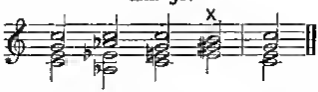
Riemann accepts Hauptmann's dictum that there is only one common chord, and the necessary consequence of that, that there are only three intelligible intervals, the eighth, third and fifth. He also adds a system of relationship besides

resulting from an upper and lower fifth, namely, as based upon the third of the central discord, into which matter it is not necessary to enter.

RIEMANN'S "FREE TONALITY."

Riemann also develops Hauptmann's system of interchordal relationship, and points out that such a succession of chords as this—

Ex. 51.



which undoubtedly is in the key of C, and could not be recognised under the old system of Tonality, is easily explained under the system of "Free Tonality," which is the result of interchordal relationship The more logical way, I would say, however, is to throw aside the *old* law of tonality as restricted to chromatic chords, which could only be acoustically derived, &c., and recognise the inter-relationship *not of chords*,—which are merely constituents—but of keys, as a whole, one to another. By adopting Hauptmann's limited view even, that the chromatic element is merely the result of an intermediate stage when one key system is passing into another, we may by logically extending the principle, conclude (1) that any one key can pass into *any other*, (2) that the foreign element from *any other* key whatever can in the intermediate stage be classified as chromatic and available in the central key, in which case the chord marked x would be classified as intermedially derived from the relative minor, and not—as Riemann mechanically derives the chords of a♭ and E major—as the result of *interchordal* relationship in the key C. But for the full and logical extension of the chromatic principle I might refer you to my own paper read here in June, 1901.

RIEMANN ON THE MINOR SCALE.

It will be remembered that Hauptmann does not recognise the Harmonic Minor Scale. Riemann similarly argues that Scale and Key by no means coincide—that Key depends on one principal triad and the interlacing of the same with other triads, and the scale is merely a melodic movement through these chords. He takes care, however, that the upper triad in this series of triads d $\overset{\frown}{\text{F}}$ a C e $\overset{\frown}{\text{G}}$ b shall be minor on the plea that motion through g♯ F is not melodic; but surely that is a matter of art and taste. Mendelssohn, for instance, has in several instances made artistic melodic

use of the augmented second. Riemann also stipulates that the motion shall be downwards from the upper note *e*—resulting thus in the Phrygian, or more recently termed Phonic Mode.

RIEMANN ON HARMONIC REVERSION.

Riemann, it might be said, attempts to justify the upper note of the Minor Triad as fundamental note, and argues that the third, being a much later addition in an evolutionary sense than the fifth, is to be recognised only as an accessory, when compared with the fundamental pillars of harmony, the Tonic and its fifth. He goes on to say that "only when the third became recognised as representative of a harmony, the distinctness of relations of tones as either upwards, *i.e.*, overtones, or downwards as undertones, received practical importance and theoretical consideration."

Well, to consider the matter seriously, I have not come across anything in the history of Harmony as an *Art* that points to any people or individual, since the recognition of the third, naturally distinguishing intervals downwards in a purely *Harmonic* sense. The whole matter of downward sense of hearing harmony seems to me an illusion, founded on foreknowledge of an acoustical phenomenon, which certainly had to be very much sought out before it was perceived.

Then, again, the admittance of Harmonic Reversion implies that we can hear harmonically *both* up and down. If that is so, and I doubt it very much, then we should be able to *hear major* harmony also *downwards* in a similar manner,—and one may pertinently ask, Why has not a system of *Major* Harmony been explained by, or built upon Harmonic Reversion? No doubt we shall be met by the reply—Oh, the Major System is founded on Overtones, and the Minor on Undertones, and our perception by hearing is guided by the natural basis underlying the two chords. Well, is this so? For myself I have failed to come across any proof of such perception.

Both Major and Minor Harmony, as Harmony in the strict sense, existed before the Undertones and Overtones were discovered, and what we know of the method of its composition does not encourage in any way the idea of Reversion,—so that I am afraid that our friends the "Dualists" must try another tack.

RIEMANN—HARMONY AND HARMONICS.

Riemann's attitude on the question of acoustical derivation of a system of Harmony is seen in a quotation from his Dictionary ("System of Harmony"), thus, "In so far as

musical thought (the presentation or comprehension of sounds) is subject to the same laws as thought in general, and seeing that a casual connection, more or less strong, must be established between the sound-producing vibration and the sensations of tone and their musical presentation, thus far is an exact theory of the *nature of harmony* to a certain extent possible." Well, I may misunderstand Dr. Riemann, but I would deny that there is any *available* connection between vibrations *as* such and the sensations known as *tone;* physically speaking, there is a connection—vibrations and music stand in the relationship to one another of *cause* and *effect.*

When we say that a certain vibration ratio will produce a dissonant effect, we are simply stating some incontrovertible natural effect, but when we come to consider *why* such ratio produces a dissonant, and not a consonant effect, we are entirely at sea.

The evolutions of the grey matter in the brain in the production of the sensations of *like* and *dislike* cannot be explained by the laws of sound; æsthetical sensations are not *ruled* by physical phenomena—the two are quite *distinct.*

As Huxley says, "all the phenomena of nature are either physical or mental"—and the manifestation of the laws based on the same are quite *distinct.*

Reducing the matter to first terms we have the laws of matter on the one hand and on the other the laws of mind.

The laws of mind or thought are not the laws of sound, and Harmony therefore as an æsthetic structure has no connection with the phenomena of acoustics.

DR. DAY'S CONTRIBUTION.

I am drawing to a close now. I have already mentioned the element of Dualism as derived from the system of Overtones by Day and Macfarren as contained in the double root derivation of the augmented sixth, so that there is very little more to say on the subject, as I have already treated of the arbitrary and artificial derivation of the æsthetic structure of Harmony from *material* phenomena, but I might touch on the fact, that one of—

MACFARREN'S BASE IN NATURE.

Macfarren's argument was that the Dominant System had its base in nature, but really *everything* has that; that "base" merely stands, as I have said, in the relation of cause to effect. Nature is the source of *all* phenomena, and the fact that these various phenomena act and react one upon another does not militate in any way against the logical classification of the same according to their characteristics.

SUMMARY.

To summarise, however, we have seen in this necessarily rapid and condensed sketch how (1) as a matter of history Harmony was first associated with the question of Ratios and Proportions; how, later, when Overtones and Undertones were discovered, it became associated first with the one, and then with the other, and lastly with both combined. (2) That our subject was necessarily confined more or less to its *inward* development from one point of view only—that of Dualism; how that (3) in the work of Hauptmann this inward development was traced from a wrong starting-point, *i.e.*, the *triad* unit instead of the *key*. (4) We have seen also how that necessarily the application of the Hegelian interpretation to the same was wrongly applied; how again (5) Hauptmann's system was complicated by the introduction of an unnecessary factor—as applied to our tempered system of harmony—namely, in the duplicate diatonic values. Later we had (6), as the result of the application of the Triad Unity, the derivation of the Minor key from the Major by the process of Reversion, and the consequent rejection of the recognised formula—the harmonic Minor Scale and substitution of new forms, and (7) also as a further result, the partial recognition only of the complete functions of one of the centres upon which all Harmony rests—namely, the Dominant. Lastly we saw that (8) after Hauptmann, the *inward* development, even though on wrong lines, practically came to a standstill, and the subject again became wrapped in the acoustical dissertations of Helmholtz, Oettingen and Riemann. Let me again express the hope, however, that the period of acoustical interference with the æsthetic structure of harmony has almost come to an end, so that we can devote ourselves to the proper evolution of its principles from within. Allow me also to point out that in this country Sir Hubert Parry in his articles in "Grove" and John Curwen in his able Theoretical Works on the *Nature* of Harmony have kept clear of these encircling mists, and to express the opinion that it is to their works, as founded on the *method*, but not on the *principles* of Hauptmann, that we have to look in future for the beginnings of a truly logical system of development of the *inward* principles of Modern Harmony.

Those who are interested in the subject of Dualism in Harmony will find the matter set out in further detail in Hauptmann's work, and in the articles* in Riemann's

* *Riemann's* "Dictionary of Music," Augener. (See Articles on *Harmony System, Clang, Clang Succession, Consonance, Tone Relationship, Scale, Minor Chord, Minor Key, Dissonance*), Riemann's "Catechism of Musical History," Part I., chap VII. See also "Die 'musikalische Akustik' als Grundlage der Harmonik und Melodik" (by Georg Capellen, Leipzig, C. F. Kahnt Nachfolgen, 1903), in which the author purposes a reform of Musical Theory leading up to *Monism* as opposed to the *Dualism* of Riemann and Oettingen

"Dictionary of Music" and in his "Catechisms," as translated by Mr. Shedlock, also in a work which Professor Riemann has kindly referred me to, namely, his "Elements of Musical Æsthetics," published in Stuttgart in 1902.

CONCLUSION.

In conclusion, Mr. Chairman, Ladies and Gentlemen, I must apologise for keeping you so long over a subject which is by no means easy to follow. As regards myself, I shall feel amply recompensed if I may have succeeded in any way in awakening interest in a subject which occupies, and will occupy in time to come, a prominent position in the History of that most modern of all arts, namely, Modern Harmony.

DISCUSSION.

THE CHAIRMAN.—I am sure we are all very much obliged to Mr. Westerby for the lecture he has given us, and for the compliment he has paid us in the assumption that we are able to follow it all. Personally, I can only speak of the matter from the point of view of the "man in the street." But so far as I have been able to investigate the philosophy of harmony it seems to me to have mainly an æsthetic rather than a physical basis. I was trained by Sir George Macfarren, and I remember how hard he tried to convert me to the Day theory, in which I was always an unbeliever. The philosophical basis of harmony must be sought for in psychological laws, for there is nothing else in the nature of harmonic relations which will account for tonality. There is nothing objective which corresponds with the subjective sensation of tonality so far as I can discover. So I am very glad to find that Mr. Westerby is to a large extent supporting that view. Then as to the number of notes that there are in the octave, and whether we use equal temperament nowadays, it may be that the theory of modern music is to a great extent based on equal temperament, but do we hear it as being so, does the finest full orchestra really play in equal temperament? We get many more than twelve notes in an octave from a full orchestra. In fact, I think for an average orchestra even of the best type, we get probably at least fifty notes in an octave. We have then to fall back on the providential faculty we possess of accepting notes as what they are meant to be. With regard to the question of higher and lower I have never been able to see why we should not be able to derive notes

downwards. There is no such thing really as high or low in music; such expressions are merely conventional. I remember reading a paper in this room for which I had some children to illustrate singing from the staff, and I showed that they could sing from it upside down. It is a common experiment in a Tonic Sol-fa class to set the children singing from an inverted modulator. They have no sense of up or down, but only of the relations of pitch or mental effect. The subject invites a very great deal of discussion, and I hope someone in the room will say something about it. I am sure we shall all heartily agree in a vote of thanks to Mr. Westerby.

(A vote of thanks to Mr. Westerby was passed unanimously.)

Mr. George Oakey.—With regard to the statement which I had noticed in Hauptmann that modulation to the sub-dominant is more easily made to the dominant—if that is the fact, and I think it is, how is it that we get modulations more frequently to the dominant than to the subdominant? [*Note.*—This matter is referred to on pp. 40 and 61.]

The Chairman.—I used to be taught that the closest relation of key was to the supertonic minor; and Sir George Macfarren illustrated this by some very apt examples. He instanced the commencement of the overture to "Don Giovanni," where the modulation is made over a tonic pedal, though otherwise it is or was unusual for a modulation to be made to a key to which the pedal is foreign. Every major chord in the key suggests a major key chord, and every minor chord suggests a minor key chord. If you prolong the chord not approached as a tonic, and especially if you play it in arpeggio, you find the original tonality is destroyed and a new one established. That cannot of course be explained on any natural ground. It arises simply from a simple mental power.

Mr. Westerby.—I am very much obliged to you for the kind reception you have given me. I seem to be in agreement with all that speakers have said subsequently.

* Beethoven.

JANUARY 20, 1903.

CLIFFORD B. EDGAR, ESQ., B.Sc., MUS B.,

IN THE CHAIR.

SOME ASPECTS OF BEETHOVEN'S INSTRUMENTAL FORMS.

BY GUSTAV ERNEST.

Two centuries claim Beethoven for their own—two centuries which in the history of music will always appear as very opposites, close though their relations are: the eighteenth century with its worship of form, the nineteenth with its worship of the idea. In Beethoven both meet, in him both find their greatest representative—in him first, and in him alone, their leading principles become reconciled. He is the only composer in whose works the great ideas which were agitating his time, some of the problems which have occupied man's mind since the beginning of man's history, have found an echo. Not that he deliberately took as it were those ideas and problems as the text of his compositions, but so much had he thought about them, so deeply was he imbued with their importance, so much had they become keynotes of his mode of feeling, so much in fact part and parcel of his personality, that the freer the expression he allowed to the latter in his music, the more was it bound to reflect those ideas. At the same time, it was Beethoven who put the last finishing touches to the grand edifice of musical forms, the material for which had been brought together in hundreds of years of slow, persistent, and consistent work, till in Ph. E. Bach, in Haydn, and in Mozart arose the architects who with master-hands were to shape and fix its outlines for all time. Beethoven accepted the forms from them, but soon he began to alter and to extend them: again not because he deliberately wished to improve on his predecessors, but because he did not find these forms an adequate medium for the expression of his individuality.

It was in obedience to the demands of the latter that the inherited forms gradually assumed a new aspect altogether, gradually gained that power and pliability which enabled them to give voice to every shade of feeling with a directness, an intensity and subtleness which they had never been thought capable of.

Thus, just as the world's great spiritual problems—the belief in a divine power, the consciousness of the responsibility of the individual, the union of all mankind in one great brotherhood, the ultimate destiny of man—were instrumental in shaping his character, so his character was instrumental in shaping or modifying the musical forms. The latter were therefore in a measure the direct outcome and in every respect the fullest reflection of the ideas that inspired him, and thus, I repeat, is Beethoven the only composer in whom the two in themselves almost antagonistic principles—the use of fixed musical forms and the free expression of ideas—are reconciled.

Before I go farther into the question of the connection between Beethoven's personality and his musical forms, I must first refer to a point of a more general character—a point of too much importance for our subject to be passed over in silence. I am referring to the oft-reiterated assertion that Art should not be bound to preconceived forms and methods, that the artist in adopting them was putting his genius in chains which made its free development, its full assertion, impossible. Well, Ladies and Gentlemen, let us look at the question first in the light of history. There we find that the names which shine most brightly on the firmament of music belong to men who, in the beginning of their career, attracted attention not so much by the newness of their methods as by the mastery with which they made use of the material left to them by their great predecessors. The works of Bach, Handel, Haydn, Mozart, and Beethoven are each and all nothing but the continuation of what the others had done before them—in them as it were the artistic genius of their period was concentrated; their task was not to destroy but to confirm, not to invent but to develop, and the power with which they have used and developed what they found ready for their hands is the measure of their greatness. They represent, one and all, stages in a gradual, natural evolution, leading up to the last works of Beethoven. We see here if anywhere the unerring logic with which the history of music moves onward: so long as it is in a stage of transition, so long as a certain development is not yet complete, nobody appears who, revolutionist by nature, reformer by design, undertakes to lead music into new channels, so soon however as the task is completed, the climax of a long-continued growth reached, new men are ready with new methods. Thus the moment the proud edifice

of instrumental forms is finished in the Symphonies of Beethoven, a Chopin and a Schumann appear on the scene with works wholly new in idea and design, opening up a wide vista of new possibilities to our art.

But to return to our point: the evidence of history shows, as we have seen, all along, that the masters who most readily accepted the inheritance of their predecessors are the very ones who have enriched the world's artistic treasury by its most valued possessions. But there is another point of view from which I should like you, Ladies and Gentlemen, to look at the question: Does the acceptance of given forms really make the artist the slave of the forms? And again: Does freedom of necessity mean the absence of any recognised law? Is *he* more free who lives outside the law or he who, acknowledging its necessity, accepts it and shapes his course *within* it, yet in accordance with the demands of his own individuality? Of course one thing must be understood, and that is that just as the laws under which we live must conform with our specific *needs* as a nation, must have due regard to our *character* as a nation, so the laws of Art must not be arbitrarily fixed, Art being expected to shape its course accordingly, but must have grown out of its very nature. The laws must be conditioned by the Art, not the Art by the laws! Which then are the laws to which Music, by the demands of its own nature, must bow down? In trying to answer that question another offers itself at once, namely: Why is it so difficult in Music, so much more difficult than in any other Art, to get hold of a new work, to gain a clear idea of its forms and outlines? Firstly: because Music is the only Art for which nature offers no models of any kind, and which therefore must create its own forms. Secondly: In a picture, a statue, an edifice, the work presents itself to us at once as a whole—at one glance we get an impression of it as something complete. But in Music it unrolls itself, as it were, before us bit by bit—each successive part, each successive phrase almost, produces a new impression, and it is only in our minds, by an intellectual process, that we can form an idea of the work as a whole. Thus if we take the term "composer" in its original meaning as one "who puts together," we are *all*, while listening to music, composers, for we are unconsciously busy all the time putting together the successive bits so as to be able to form an opinion on the work, and get an impression of it as a complete thing. That this process of mentally putting together is a much more difficult one than the one necessitated in examining a picture, for instance, which is practically one of taking to pieces what is put before us in its entirety, goes without saying. To overcome these difficulties must be the first aim of the laws which rule musical forms; and that object is in a large

measure attained by introducing into music the element of symmetry, *i.e.*, the grouping of the parts in a certain recognised and (which is essential) easily recognisable way, that is, in such a manner that one or some of them recur at regular intervals. Now apart from the formula *a – a* representing two equal parts, there is no more simple symmetrical one than *a b a*, *i.e.*, two similar parts *a* surrounding a different part *b*. And this is the formula which is the basis of all musical forms; I see it already in the Song form, though in doing so I am probably exposing myself to the wrath of many present. We all recognise it in the Sonata form with its first part, working-out, and *Reprise* of the first part; in the Scherzo or Minuet, with its Minuet, Trio, and return of Minuet; in the Aria, a first part in the major followed by a new part in the minor, or *vice versâ*, and this in its turn by a repetition of the first part; finally in the Rondo, with its first subject followed by a second, and this by a repetition of the first; Beethoven most frequently extending this into I. II. I. —III.—I II. I., *i.e.*, a double, or rather threefold application of the formula. In this way a distinct outline is given to musical movements, one which makes us feel that we are in the presence of organic structures of which we can form definite pictures in our minds, thus offering that assistance to us as listeners without which Music becomes a mere succession of more or less disconnected phrases—an assistance the necessity of which is acknowledged by those who think they can do without these forms by their adding explanatory remarks to their music, either in the form of titles prefixed to its different sections, or by quoting bodily the poem in following which they evolved their new forms, or by taking a well-known historical event, poetical work, or even picture as a basis, the general acquaintance with which could serve as a guide through their music.

That it is not music alone which has recognised the symmetrical beauty of the formula *a b a*, one glance at the productions of nature and the other Arts proves, for our two ears appearing on both sides of the head, the two eyes on both sides of the nose, the two arms on both sides of the body are nothing but exemplifications of the same principle, and the same may be said of many of the manifestations of the other Arts We find it in an exaggerated form in the pictures of the older schools—Dutch, German, and Italian—with their anxiously symmetrical grouping of masses of figures around a central one; we find it more particularly too in Architecture, in the Gothic and Romanesque Cathedrals, with their oft-recurring outline—two similar, towers flanking a central part—as also in the familiar shape of many of our large buildings. Thus, if Architecture in general has been called frozen Music, we might call a

Cathedral a *frozen Sonata* movement.—One thing then, Ladies and Gentlemen, I trust you will admit, provided you are in agreement with me as regards the principle cause of the difficulty in comprehending music, namely, that no forms could have been designed more capable of vanquishing that difficulty.

It was no doubt an instinctive recognition of such facts as these, as well as of the inexhaustible possibilities of the forms, that prompted Beethoven to accept them without demur from his great predecessors. But as time goes on,—and in the life of one who embodies in himself the powers of thousands of lesser men, time moves, as it were, more slowly, and a year encompasses the experiences of other men's whole lives—I say, as time goes on, and he feels himself no longer the slave but the master of these forms, he begins to realise that they have not left the stage of development yet, that something more can be, must be done with them if they are to reach their full maturity. And now a process not of destroying, but of building-up, or rather of building-on, begins. First, and most important of all, the first movement form, the so-called Sonata form par excellence: Beethoven full well realised its wonderful adaptability for musical purposes, but he also saw where its weak point was. One can compare this form with a drama. The first part, the exposition: dramatis personæ, the different themes are introduced; II.—The working-out, the development and catastrophe: the climax which is so often reached just at the end of this section. III.—The return of the first part: the denouement But in a scheme which demands that all the characters shall at the end appear the same which they were in the beginning, even the contrast provided by the key-difference being done away with, a really dramatic denouement is impossible, for drama means action, and action implies development, and development implies changes. Yet did Beethoven succeed in giving it a strongly dramatic character without changing the inherited form. How? Simply by developing the short *Coda* which we find occasionally introduced in Haydn and Mozart's works into a most important feature of the movement, which frequently forms its climax, and contains the catastrophe of the whole drama! Such are the *Codas* in the first movement of the Appassionata and Eroica, in the last movement of the Moonlight Sonata, and in many other works. That Philistine element which had stuck to the form so long as it had to be wound up with the reappearance—the as it were smiling, self-satisfied reappearance—of all the themes, all the characters, so to say, unchanged, has now disappeared; the form has become the most powerful medium for the representation of the great tragic problems of men.

There was no need to change in any way the form of the slow movement, much as Beethoven changed its character; all the more apparent became such need in the third movement, the Minuet, which had become an almost indispensable feature of the Symphony, Quartet, &c. Beethoven too employs it in his first Symphony and first Sonata. But soon it became irksome to him to introduce every time a movement which, apart from the given form, had a given time and character too. Even Haydn had already been anxious to replace it by something more pliable, without being able to accomplish the change. Beethoven in his second Sonata with one bold stroke abolishes it, and puts the Scherzo in its place, which though in form resembling the Minuet, is free both as to time and character, and thus allows the composer's imagination very different scope. Beethoven was no iconoclast, and we can therefore not wonder at his occasional returning to the Minuet in later works—but what the *possibility* to put a different kind of movement in its place implies, we at once realise when we think of the movements standing for the Minuet or Scherzo in the Fifth and Ninth Symphonies. But most interesting perhaps is Beethoven in his treatment of the *finale;* in Haydn and Mozart's works this was mostly in Rondo form—a form which, with its ever-recurring first subject, its entire absence of all development, necessarily has a quiet, unimpassioned, idyllic character. Beethoven retains that form where the progress of the whole work warrants his doing so, but where it demands a more forceful, a more dramatic climax, or where he wants to emphasise one idea that for the time being dominates his feelings, he discards it for different forms—the first movement form, the theme with variations, the fugue, and others.

And now if we ask why were all these changes made? we must answer: They have one and all their root in the master's individuality, and in his desire to find an adequate medium for its expression. For Beethoven wrote, not when and what he wanted to, but when and what he had to. There was a compelling power in him that came over him at times irresistibly, like the storm that sweeps the earth, and forced him to put into Music his heart's emotions. The great tragedy of life —its sorrows, passions, and despair; its grim humour, its mad fight against, and its resigned acceptance of the decrees of fate; and again, the sweetness of living, the glad enjoyment of the moment's happiness, the beauty of the world around us; and yet again the consciousness of his power, his gratefulness to the Creator of all things for such a heavenly gift, all this and a thousand times more he had to express in his music—had to, because he could not but express himself, for his feelings were the man. Every one of his works is born of some such feeling, which thus not only pervades but shapes

the work, till every part and every smallest detail reflects some phase, some aspect of that feeling, giving to the whole a sense of unity, harmoniousness and completeness such as few other masters' works possess in the same degree. I shall return to this latter point later on again; for the present, I only want to impress on you that just as the specific form of specific works is due to the specific feelings dominating him at the time of their composition, so all the general changes he wrought in the forms are due to his peculiar personality and to the demands which it made on its instrument of expression.

Even from this point of view alone there can be no more interesting study than that of Beethoven's forms, for through them we can get a clear and definite picture of the intellectual, moral, spiritual man and the phases his character went through in its gradual development. There are three such phases clearly distinguishable in both his personality and forms. In the earliest works he is the contented disciple as we have seen of his predecessors, adopting their forms pure and simple. Life lies before him a vista of golden hopes, its deeper problems do not concern him yet; happy in the enjoyment of the present hour, he only wishes to give voice to the music within him—the old forms suffice for what he has to say. The works up to about 1800, comprising the first Sonatas, Trios, Symphonies, Concertos, Quartets, the Septet, &c., belong to that period. In the second one his life's tragedy begins. His hearing is failing—like a Damocles-sword the fear of complete deafness is hanging over him. Twice he hopes to find earthly bliss in woman's love, and both times he is disappointed; his brothers, who by all the laws of nature should have watched over him as his guardian angels, become a source of endless trouble to him; his opera, on which he had based such far-reaching expectations, proves a failure. Thus rudely awakened from his dreams of undimmed happiness, his whole nature undergoes a change—*i.e.*, a moral growth such as we can trace in few men and of which his works give convincing proof. For a moment it seems as if his strength is not great enough to bear the burden of his disappointments; that was the time when the Appassionata was written, that gloomiest of all his works, an apotheosis of despair, a monument of human—all too human—weakness. But soon the old stubbornness reasserts itself. "I'll show myself stronger than fate itself" he had written to his friend Wegeler, and might it knock ever so loudly at his door, it should not get him under. The Fifth Symphony is written, that magnificent assertion of man's power over adverse fate—that glowing confession of faith in man's divine spirit. He still preserves his innate reverence for the inherited forms, but he adapts them to the needs of the new experiences, the new emotions, which they are to express. Thus nothing could be

more clear-cut in its outlines, more in conformity with the rules governing musical forms, than the first and second movements of the Appassionata. But in the last, that sudden, terrific outcry of despair, all tradition is thrown overboard; there are none of the changes to the major usual in a movement in the minor key; minor follows on minor, no ray of hope breaks through its dark gloom—a picture of inconsolable sorrow, of unchained passion it is, such as the whole literature of Music does not possess again. Similarly in the Fifth Symphony the first three movements are in form fairly strictly in accordance with the conventional scheme, but the last one is unexpectedly interrupted by a return of the third movement with its anxiously expectant rhythm—just as in life in the moment of supreme happiness a sudden fear clutches at our heart: "Can it be true, and is it not all a dream?" till with overwhelming force we realise that we are awake, that all this bliss is really ours.

Every phase of joy and sorrow—the common inheritance of all men—finds voice in the works of this second period to which the Sonatas up to Op. 101, the Symphonies from the third to the eighth, "Fidelio" with its four magnificent Overtures, the Rasoumoffsky Quartets, and the later Trios belong.

The third period begins soon after that splendid climax of his career in 1815. Worries and misfortunes thicken; the death of his brother Carl and the new responsibility placed upon him in having to take charge of his nephew, the constant lawsuits in which he is involved, the frequent lack (real or imaginary) of the means of existence, all tend to darken his spirits, and when finally his hearing grows so bad that conversation with him becomes more and more an impossibility, then he withdraws from the world without into that within. And now a new life begins for him, a life of his own creation, in a world of his own making, peopled with the children of his fancy, radiant with the glory of his ideals. The old world with its disillusions and tribulations has vanished, life is beautiful once more, and joyfully he uplifts his voice in its praise and in thankfulness to the Giver of all things. As in a mist the shadows of his old sorrows appear at times and beckon to him, but they are now nothing but shadows; he turns from them and the past, from the "has been" to the "to be" which lies before him, a vision of beauty and happiness! From that time he becomes a prophet, a seer; his music a reflection of his visions and dreams, an echo of the voices that resound in that new world of his. Can we wonder that the old modes of expression no longer suffice, that the full unfettered flow of his imagination, the full expression of his feelings is the only thing that concerns him; that the form becomes simply the vessel which is to hold

his emotions, a vessel which he breaks without hesitation and replaces by a new one if the emotions are too powerful, too great, or too new to be held by it? An entirely different formal aspect his works now assume. Think only of the last Sonatas; take the one Op. 109: an *Allegro* he calls the first movement, but barely has he announced the first subject when, after altogether only eight bars, the second subject enters as an *Adagio*, to be followed by a working out which merges almost imperceptibly into the *Reprise* of the first part, with its *Allegro* and *Adagio*. The second movement is a *Presto* in a somewhat condensed Sonata form, the third movement a theme with variations—variations different in their whole mode of expression from any even *he* had ever written before. You see how different these outlines are from those we are accustomed to in a Sonata. And as with *this* Sonata, so with the one Op. 110, so with the last Quartets, so with the last Symphony

Here then you have as I said before the three principal phases in Beethoven's life, and the three principal stages in the development of his musical style. To sum up in a few words: In the first, form reigns supreme; in the second, form and feeling appear in a happy union; in the third, feeling reigns supreme. And to avoid any misunderstanding, let me add here that I take the word *feeling* in a wider sense than is usually the case. I imply in it at once the causes which gave birth to it—the ideas which have become so much part and parcel of his nature that his entire mode of feeling bears their impress. If I were allowed to coin a new term I should like to replace the word feeling in this sense by the term "emotionalised idea," thus indicating at once the cause, the idea, and the effect, the emotion

Before leaving this part of my paper I should like first to answer a question which probably is on many lips just now—the question: "Considering that Beethoven during this last period makes use more frequently than ever before of the strictest contrapuntal forms, does not this return to the well-known devices of old rather contradict my contention that this last is the period in which feeling reigned supreme, when his music was simply the language in which his innermost nature expressed itself unfettered by any such consideration as conventional form?" I do not think there is any such contradiction, Ladies and Gentlemen. Paradoxical as it may sound, yet I am convinced that the return to these well-known musical types does not imply that he allowed the musician in him a freer hand than before, but on the contrary that he allowed purely musical considerations now less than before to influence him. To make my meaning clear, let me first remind you, Ladies and Gentlemen, that there is no larger form so wholly lyrical in character as the fugue. An

emotion finds expression in a musical subject and that subject, that emotion, becomes the keynote of the whole work —that subject is represented to us from every possible side, in every possible aspect. Even where a fugue has several subjects, the fact that they are developed side by side indicates that they do not so much represent different feelings as different phases of the same feeling; that they do not oppose but supplement one another. Thus the fugue becomes a most forcible medium for the expression of an overpowering emotion, provided of course that he who uses it is its master and not its slave; that he is not like the soldier who during the battle called out to his superior, "I have made a prisoner!" "Bring him here," his superior cried back. "He won't come!" "Well, come then yourself, anyhow." "He won't let me," the soldier replied.

That Beethoven was such a master, that it was as easy for him to clothe his ideas in contrapuntal as in any other form, goes without saying.

Let me now furthermore remind you, Ladies and Gentlemen, how large a place the lyrical element holds in Beethoven's last works. Is not the frequent use of the form of the theme with variations in itself sufficient proof of that? For is not that form, with its constant insisting on one idea, as purely lyrical in character as that of the fugue? And thus we find that of his last three sonatas two end with variations, one with a fugue. If, then, Beethoven uses this latter form so often in his later works, uses it moreover so often in his *finales* (just remember the Sonatas, Op. 101, 106, and 110, the Violoncello Sonata in A, the colossal fugue with which the B flat Quartet originally ended), it is not that in doing so he wished to make a concession to his Art and its artifices, but that it seemed to him the most suitable, most powerful medium by which to give a last convincing, comprehensive expression to the feeling in which the whole work had originated. I characterised the second period in the master's life as the happy union between "idea" and form; I might just as well have said between the man and the musician. For during all that time his ideas unconsciously found voice in music at once fully reflecting its origin, and at the same time conforming to his instincts as a musician. As such he was ever desirous to give them the most attractive and, we may add, the most taking, most telling expression, and moreover to end his works in such a manner as to dismiss the listener in the best possible humour. That is why for his last movements he usually selected subjects either peculiarly suave and beautiful, or else gay and humorous or again extremely brilliant. I need only remind you of such supremely thoughtful, poetical and dramatic works as the Violin Concerto, the Emperor Concerto, the Trio in D, and the unexpectedly light, playful

and brilliant *finales* he has given them. In those days the musician in him, ever alive to the musical effect of his work, resented the winding up of a big composition with so severe, complex, and comparatively ineffective a thing as a fugue. But no such consideration existed for him during the last ten years of his life. Not effectiveness but adequacy was the thing that now concerned him most, and that form appeared to him the most effective which most adequately voiced his heart's emotions and aspirations. Thus it is the poet not the musician in him who now again and again has recourse to the fugue, and it is the purely poetical aspect the latter assumes which reconciles those apparent opposites—free self-expression and strictest contrapuntal forms.

And now, Ladies and Gentlemen, you will perhaps not unwillingly follow me if I lead you from the always somewhat misty sphere of speculation to the firm, solid ground of facts and figures. In doing so I ask your attention for a theory which will I believe be new to most, probably all of you. Anyhow, I have found no mention of it in Dr. Prout's books on Form—and you will no doubt agree with me if I say "What Prout does not know on these questions nobody else is likely to know"; perhaps some of you mentally add "and it is not likely to be worth knowing,"—but that is another story.

In 1854 there appeared a book by Adolf Zeising called "A new law concerning the proportions of the human body." This law Zeising states in the following terms: "If the division of an object into two unequal parts is to appear well proportioned, the smaller part must stand in the same ratio to the larger as the latter to the whole." Applied to the human body this would mean that the smaller or upper part down to the waist should stand in the same proportion to the larger or lower part as the latter to the whole body. This law can be best proved by means of the corresponding law of the "golden mean." Arithmetically the number 13 offers the simplest, though not an absolutely accurate means of demonstrating it, for if we split 13 up into 5 + 8, we find that 5 stands approximately in the same ratio to 8 as 8 to 13, namely, 64 : 65; the difference of $\frac{1}{65}$ part is so infinitesimal that it need not be considered at all. Thus in applying the law the easiest method will be to divide the whole object first into 13 equal parts and then to apportion 5 of these to the smaller and 8 to the larger part. In a human body for instance which measures 65 inches, we should divide these into 13 parts of 5 inches each, and thus find that the upper part should measure 5 times that number, namely 25, and the lower 8 times that number, namely 40 inches. The immense number of tests which Zeising has made—tests which every one of us can repeat, as I for one indeed have done—prove

without the shadow of a doubt that, whenever these figures coincide with the actual measurements, the person measured impresses us as well-proportioned, as having "a good figure," but whenever they do not, the opposite is the case. If for instance a person whose height is 65 inches—the proper proportion as shown before being 25 to 40—had unusually long legs, we should find that these figures would not coincide with the actual ones. One thing of course must not be overlooked, as being of the utmost importance: in comparing the proportions as found by the arithmetical process with those which present themselves to our senses (the eye, or as we shall presently see, the ear), we must remember that the evidence of the latter is so inaccurate that we must allow for a certain margin. As an eminent scientist said to me with whom I discussed the point, "it is not a question of being *allowed* to, but one of being *bound* to provide for a margin, for," he said, "if for instance your hand were filled with corn, you would never notice it if I added two or three or even eight or ten grains." In the same way our eye cannot measure by inches an object that is large enough to be measured by feet, and if the actual and the arithmetical proportions of a human body differed by an inch, or even two, we should still receive from it the impression of being in perfect proportion.

This important law Zeising then applied to Art-creations with the most astonishing results. Allowing for a margin which amounted to about $\frac{1}{15}$ of the whole, he found for instance that the proportions both of Greek temples and of Gothic cathedrals were frequently completely in accordance with its demands. Even to music he applied it, but instead of going at once to the actual productions, as he did in the case of Architecture, Sculpture, &c., he contented himself with testing it with regard to the vibrations of sounds. It was Emil Naumann who first applied it to the *works* of the Masters. In 1869 a book of his appeared, "Die Tonkunst in der Cultur-Geschichte." It was a ponderous attempt to show the relations between Music and all other manifestations of the human mind; the first volume alone counts nearly 800 pages, and is so full of utterly futile matter that the good points it contains stood no chance whatever of being even noticed. Amongst the immense number of subjects touched upon in it is Zeising's discovery, and I consider that Naumann should have full credit for having first applied it to practical music, though I must admit that his conclusions and even his figures appear very little conclusive. In most instances there appears a very large difference between the actual and the arithmetical figures, which Naumann accounts for by contending that if we allow for the other Arts a margin of $\frac{1}{15}$, we ought to allow for the much less

tangible, much more elastic Art of Music, quite one of $\frac{1}{7}$. No doubt it was this large margin which caused the few who may have read his book to pause before accepting his conclusions, and which prevented his discovery from ever being taken quite seriously. When I first came across the book many years ago, I took a few notes which I carefully kept, feeling convinced that the question was of sufficient importance to warrant its being taken up more systematically and more fully than Naumann had done. Time went on, and as I occupied myself more with the wider aspects of not only mine but the other Arts as well, as the intimate relations existing between all of them, and again the uniformity of the laws governing equally all Art and life became clearer and clearer to me, I bethought myself of Zeising's discovery, and of the further link in the chain of evidence it afforded, and I took up the question once more, and on the basis of Naumann's first attempts, elaborated it till there seemed to me no possibility of a doubt as to the applicability of the law to Music.

The first difficulty that had to be overcome was to find a unit by which to measure a musical composition. Such a unit Naumann quite properly, I think, found in the *bar*, which divides it into groups of equal length as to time, for of course in a musical composition, which as it were comes into existence bit by bit as we listen to it, which develops in time not in space, a time unit is the only applicable one. Secondly, to which musical forms should we apply the law? It seems to me, first and foremost of all to the Sonata form, as the (to the superficial observer) most artificial of all, and the one in which (especially in the case of Beethoven's works with their long *Codas*, elaborate Working-out parts, &c.) there appears to be least of all any definite law of proportion carried out. Thirdly, we must first ask: In what way is a Sonata movement (and of course I am now always referring to movements in the so-called "Sonata form") divided into two unequal parts as to length? I think the answer is clear in that we can look either at the first part as the smaller one and the remaining portions as the larger, or else the first part plus the Working-out as the larger and the remaining portions, comprising *Reprise* of first part and *Coda* as the smaller. A fourth point which I must mention before giving you practical demonstrations is that in some instances the proportions work out more correctly if the first part is repeated, in others when it is not. And the question not unnaturally presents itself: Did not Beethoven sometimes put in the repeat mark purely mechanically, in accordance with long established tradition and habit, while in others he in laying out his movement at once took into account the repeat of the first part, and gave the different sections dimensions proportionate to

those of the first part? And furthermore, have we not herein perhaps a guide as to where repeats should be made and where not?

Finally, I beg you to remember that the discovery of the applicability of this law to Art in general dates barely fifty, to Music barely thirty years back, that the great Masters therefore could have had no knowledge whatever of it. It is in this that the importance of the whole matter lies, for it is one thing to produce proper proportions by counting your bars, adding a few here, taking off a few there, until you get the correct figures, and to arrive at such a result unconsciously while giving free reign to your fancy.

And now to practical proofs. Let me first select a few particularly striking instances: The first movement of the Third Trio has a first part counting 138, a Working-out counting 76, and return of first part and *Coda* counting together 146 bars. That makes together 360 bars; divided into 13 parts this gives us 13 groups of $27\frac{9}{13}$ bars, 5 times that number is 138, 8 times that number is 222, this means that Zeising's law is carried out here to a fraction—fifty years before it was discovered! Similarly in the Fourth Trio the figures are $\{\underbrace{105—51}_{156}—98\}$, together 254 bars; this gives 13 groups of $19\frac{7}{13}$ bars. Now 8 times that figure gives us 156, 5 times that figure 98.—The first movement of the "Pathetic" (after the Introduction) is made up of the following group—$\{\underbrace{122—62}_{184}—115 = 299\}$, which means 13 groups of 23 bars each, 5 times that gives us 115, 8 times 184 bars.

I have given you here a few instances in which the figures absolutely coincide; perhaps you will take these as carefully chosen examples which, compared with the immense number of movements in Sonata form in Beethoven's works, would not count for much. But let me tell you at once that I have gone through all or pretty nearly all Beethoven's instrumental works —anyhow, all the Pianoforte, Violin, and Violoncello Sonatas, Trios, &c.; that I have calculated all the movements in Sonata form, and that the result substantiates the theory in a manner wholly unexpected even by myself. In the above instances there was no need to have recourse to the margin which, as we have seen, we are bound to allow. I told you that Naumann fixed that margin at $\frac{1}{17}$ of the whole, so that in a movement containing 170 bars he would consider the proportion to be correct even if the two sets of figures differed by 10 bars. I have found no necessity of permitting so large a margin, in fact $\frac{1}{30}$ of the whole is about the largest difference that I have found in the fifty-five movements which I am speaking of, and which in a movement of 150 bars would amount to 3 bars.

Let me give you a few more figures, selected from the Pianoforte Sonatas :—

In the Fourth Sonata the figures are :—

$$137—\underbrace{52—137}_{226}—37 = 363$$

If you make the calculation, which it would take us too much time to repeat in every instance now, you will find that Zeising's figures (as we will call them) come to 139 and 224 bars, leaving a margin of $\frac{1}{139}$ of the whole.

In the Fifth Sonata the figures are :—

$$105—\underbrace{61—117}_{178} = 283$$

Zeising's figures are: 108—175.

In the third movement of the same Sonata, which is in a condensed Sonata form, the actual figures are, if we repeat the first part :—

$$\underbrace{92—11}_{103}—65 = 168$$

Zeising's figures are exactly the same.

In the Ninth Sonata the figures are :—

$$60—102 = 162$$

Zeising's: 62—100

In the third movement of the same Sonata :—

$$83—48 = 131$$

against: 81—50

In the Tenth Sonata :—

$$124—76 = 200$$

against: 123—77

In the Eleventh Sonata the figures in the first movement differ by about $\frac{1}{40}$ of the whole, but in the second movement they are :—

$$30—\underbrace{17—30}_{47} — 77$$

against: 30—47

In the Twelfth Sonata the first movement is in variation form, but in the last the figures are :—

$$108—72 = 180$$

against: 111—69

In the Fourteenth, the "Moonlight" Sonata, in the first movement the figures are:—

41—28 = 69
against: 42—27;

in the last movement, counting the repeat of the first part, the figures are:—

165— 99 = 264
against Zeising's: 162—102

I will not weary you with further details, but will sum up the result of my studies by stating that in the thirty-three movements from the Pianoforte Sonatas examined, twenty-three proved to be almost exactly in accordance with Zeising's law. *Of the Violin Sonatas* every one of the ten first movements was found to be in accordance with it, curiously enough the smaller part being in two instances absolutely correctly represented by the Working-out and the *Coda*. *Of the Violoncello Sonatas*, four of the five first movements were again subject to Zeising's law, and of the Trios, six out of the seven first movements. I think, Ladies and Gentlemen, that you will admit that there can be no question of coincidence if the law is proved to have been carried out in forty-two cases out of a total of fifty-five.

But I have not done yet. Why, I asked myself, do nearly all the remaining thirteen movements seem so perfect in their proportions too, when yet the law does not fit them at all?

There is a strange fascination in figures. I returned to them, examined them more closely, and now I made a curious discovery, for I found that in nearly all of them there existed some intimate relationship between the numbers representing the different parts. Let me show you what I mean—

1. In the first Pianoforte Sonata in F—the first also of those thirteen outsiders with which we are now concerned, the first part has 48, the Working-out 52, the *Reprise* and *Coda* again 52 bars.
2. In the Second Sonata in A the figures are 116—110—110. In both cases the Working-out has exactly the same number of bars as the *Reprise* and *Coda*.
3. In the Third Sonata in C the figures are: first part 90, Working out 49, *Reprise* 80; that seems an unusually short Working-out, but now a *Coda* of 41 bars is added, bringing the Working-out and *Coda* to exactly the same length as the first part.
4. In the Eighteenth Sonata in E flat the figures are 88—48—81—35, also a comparatively short Working-out, but if you add the *Coda* to it you get 83 bars, a number closely corresponding with the other parts, 88 and 81.

5. In the Thirty-first Sonata, Op. 110, in A flat the figures are 37—17—41—20, again Working-out and *Coda* exactly as long as first part.
6. In the first Trio the figures are 104—55—88—46, once more you find that Working-out and *Coda* give with 101 bars almost the same number of bars as the first part.
7. In the Twenty-seventh Sonata in E minor we get 82—62—102, *i.e.*, the second part with 164 bars exactly double the length of the first part.
8. The same is the case in the Twenty-fourth Sonata in F sharp minor, where the Working-out and *Reprise* have 67, the first part 34 bars.
9. In the Third Violoncello Sonata in A the first repeated part counts 188 bars, the Working-out only 57, the *Reprise* 80, the *Coda* 49. If you sum up these three figures they give 186 bars, so that the double bar divides the movement into almost equal parts.
10. In the Sixth Pianoforte Sonata in F the first repeated part counts 130, the Working-out and Return 135 bars. Again a division into almost equal parts.
11. Finally in the Seventh Trio we find that the first repeated part has 192 bars. The Working-out, *Reprise* and *Coda* have together exactly the same number of bars.

Eleven out of our thirteen movements then are accounted for, each showing that the master in laying it out unconsciously gave it proportions which every time clearly observe one or the other law of symmetry,—the two movements not accounted for may serve as the exception which proves the rule.

And now, Ladies and Gentlemen, what conclusions are to be drawn from these facts? Let me before I go into that question tell you that I am fully aware of the danger that lurks in these calculations. The student who hears of them will feel only too readily inclined to count out his sonatas, and if the proportions are *not* correct to cut off and add on till they are, and *when* they are, to imagine that he has written a masterpiece worthy to rank with Beethoven.

The mistake would be just as great as if any one of us went to the please-take-your-height machine, put his penny in the slot, noted his height, made his calculation, and if he found that his actual measurements coincided with the arithmetical ones, looked upon himself as an Adonis redivivus. Perhaps he is one—perhaps not; for the elements of beauty are many, and correct proportion is only one of them, the presence of which could alone make a work of Art or a human being no more beautiful than its absence would make it ugly, if other elements of beauty were present in overwhelming numbers.

And now one or two words as to the importance to be attached to this discovery of the applicability of Zeising's law to Music.

In these days, when the very forms which are indissolubly connected with the greatest treasures our Art possesses are systematically attacked and derided, it seems well to be reminded that these forms have not been arbitrarily fixed, but are of organic growth, and mysteriously developed according to eternal laws, laws from which the individual artist can escape the less, the greater he is. For indeed is there not something extraordinary in this carrying out of a law whilst being wholly ignorant of it? Is not he who does it, in a sense re-creating the law, and must there not be something of the power and of the spirit in him which originally gave birth to it?

Ah! what halcyon-days of Art were those when the artist performed his great deeds without knowing, without troubling about the why and the wherefore. Nowadays they know all about the why and the wherefore, and only too ready are they to tell us all about it; but where are their great deeds?

Secondly, and I touched on this point already before: Is not the proof here afforded of the unity of the laws governing Art of extreme value? For if we see the same principle carried out in a Greek temple of the fifth century before Christ, in a Gothic cathedral of the thirteenth and a sonata of the nineteenth century, do we not indeed have proof here of the continuity of the laws of artistic beauty, no matter how much influenced its manifestations might be by the character of specific periods and places? And if we think of this, does it not seem as if all at once the principal phases in the world's history were brought closer together, does it not show us how narrow after all is the circle of ideas within which our minds move? And yet again: What marvellous possibilities must there not be in a principle which could bear fruit in the creations of dim antiquity and our own day alike, in works built up for all time in massive blocks of marble, and in others constructed of the most subtle, the most unsubstantial of all materials—musical sound? Free and unfettered the artist imagines himself to be following the bent of his own fancy, yet is he an instrument only in the hands of the great World Mind, World Spirit, which unknown to him shapes his work in accordance with His own eternal laws.

And thirdly, we all know that there is no other problem in the whole range of æsthetics which offers such insuperable difficulties as the first and fundamental one: What is beauty? Why do certain objects appeal to us as beautiful, others not? Am I too sanguine if I think that this discovery of Zeising's allows us a clear conception, gives us a firm hold of at least one of the many blocks of which the wondrous edifice of

beauty is erected? And am I arguing all too boldly if I hold that the same law which is at work in the artist, compelling him to shape his work in this and no other way, may perhaps be equally at work in the listener, the artistically inclined listener too, making him unconsciously feel the presence of certain proportions, and making him feel those proportions as an element of beauty? It was Beethoven who said that the mind must have rhythm if it is to grasp the very being of music. No doubt the words were meant in a wider sense than the one in which I apply them here, yet do they not strangely confirm my contention?

I will not detain you much longer, Ladies and Gentlemen, but there is one more point to which I would draw your attention. We have just seen how wonderfully well balanced Beethoven's works are; there is not a phrase, not a part, not a movement, not a complete composition which does not fill us with a sense of absolute satisfaction. Everywhere his work is rounded off in the same marvellous way; everywhere he seems to have known instinctively when all that was to be said had not been said yet, and we have proved by figures with what unerring certainty he always added just so much as was necessary to make the proportions harmonious, to give that completeness to his productions which was needed in order to make them perfect works of Art. And what applies to his individual compositions applies equally to the large groups formed by those devoted to the same branch of his Art, and equally also to his whole life-work.

If we ask which of his works are by general consent considered the greatest? the answer is: Of his Symphonies the Ninth, the last; of his Trios the one in B flat, the last; of his Pianoforte Sonatas the three last, which separately and from a purely musical point of view are perhaps surpassed by some others, yet looked upon (as they ought to be) as one continuous expression of one mighty feeling have never been equalled for elevation, beauty, and chastity of expression; of his Quartets the three last; of his Pianoforte Concertos the one in E flat, the last; of sacred works the Missa Solemnis, the last.

What does this prove? In the first instance the wonderful growth of his mind and his powers, which increase from work to work, till in the last they find their fullest expression. It proves secondly what I alluded to before, namely, that he knew with absolute certainty when he had not yet said the last word in any particular branch of music. Twenty-nine Pianoforte Sonatas he had written when he suddenly takes up his pen and produces three more, so different from all the others, so new in feeling and manner, that musical expression seems through them led into altogether new channels. Eight Symphonies he had written, each one a monument to his

genius that would alone be sufficient to keep his name alive for all time, then after twelve years he writes another, "the" Symphony of Symphonies, creates by the introduction of the chorus, a new form altogether, and opens up a vista of possibilities to his Art such as no man had in his boldest dreams ever dreamt of.

What shall I say about the Missa Solemnis? What about the last Quartets, the beauty and greatness of which we are only now beginning to realise?

But equally wonderful it is to me that he was so fully conscious of it when he had said that last word in any department of his Art, and that once it had been said he never again returned to it. For, remember, he lived another sixteen years after the B flat Trio, another nineteen years after the "Emperor" Concerto, another five years after the last Pianoforte Sonatas were written.

Thus is his life-work one great circle. Thus does it advance in one grand majestic rhythm, a rhythm which leads in the individual works to climaxes which shake us in our innermost hearts by their power and impressiveness; which leads him in each group of compositions to one grand climax, almost invariably reached in the last work of its kind; which leads him, so as to round off and fully complete his life-work, to that overpowering final climax in the very last productions of all—the Ninth Symphony, the last Sonatas, the Missa Solemnis, and the last Quartets.

I have come to the end of my task, Ladies and Gentlemen. If I were asked to embody in a few words its purpose, I should answer: "To prove that Beethoven in his treatment of the forms was led purely by the needs of his own personality, but that so strongly was the latter imbued with the spirit of Art that unconsciously he followed out one of its most important laws, any knowledge of which he could by no chance have had." And if you asked me wherein lies the greatness of his work, my answer would be almost identical with the one just given: "In the fidelity with which he obeyed the commands of his own nature in the *matter* and the commands of those higher laws in the *form* of his works."

Many are the roads that lead to the cherished goal of all who seek the truth in the realm of Art—the goal of a full perception of the nature of beauty. Many are they and long, and not one of them are we allowed to omit if we want to behold beauty in all its manifold aspects. Anything that will advance us even one little step on even one only of these roads is I venture to think a gain, and it is in this light that I would beg you, Ladies and Gentlemen, to look at the theory I have introduced to you to-day—not as a thing of importance in itself, but as a stepping-stone towards the solution of a great problem.

DISCUSSION.

THE CHAIRMAN.—Ladies and Gentlemen, I think you will agree with me that Mr. Ernest has given us a lecture containing a great many ideas which are far from hackneyed—ideas which will furnish food for thought for us all. Nothing could have been more clear or more conclusive than his demonstration of the necessity of form in music. The fact that we can only intellectually look back on what we have heard is quite sufficient to demonstrate this necessity, and I think one of the reasons why Beethoven stands out so much above other composers who have come after him is because they have not always paid the same regard to form as Beethoven did. I do not quite agree with the lecturer that there was no one except Beethoven who blended form and feeling in so perfect a degree. If I were asked to give an instance, I think I should mention the "Requiem" of Mozart. That of course was his last work, and in it we have an example which shows us how the most rigid of forms can be employed in expressing the most profound feeling. I was very glad to hear what the lecturer said about fugue. I am perhaps a little old-fashioned in my ideas about fugue. I am sorry Mr. Shedlock has gone, as I remember he gave us a most excellent lecture on the Evolution of Fugue, when it was pointed out that it was not on the contrapuntal side that Beethoven was strongest. If he had had the mastery of counterpoint and fugue that Mozart possessed almost from the beginning of his musical career, it would have been of still greater advantage to him. I do not know of any master who had the faculty of doing superlatively difficult things as though they were easy to the same extent as Mozart had. We must remember that Beethoven lived longer than Mozart, and that he came after Mozart. In politics there is a school of thinkers who regard every step forward—such, for example, as an extension of the suffrage—as though it were made for all time. So in music there are some who think that every development that is made is made as a permanent advance. But in politics people forget that there are instances in which a wide franchise has been followed by a narrow one, or by a dictatorship; and so in music it is very possible that we may hereafter find a reversion to earlier forms. I am hoping that in the future we shall recognise more fully than some of our present-day composers do, the importance of a strict regard to the elements of form; we should never talk of form as a fetter. What would a poet think if he were asked to look on the laws of metre as fetters? Why, it is just this that gives

additional grace and dignity to the thoughts he has to convey. Poetry without such laws is a thing inconceivable. In the same way, where form is unduly swamped by feeling the composition has to me the effect of a picture which is all colour and no drawing. What our lecturer said about the law of the golden mean is exceedingly interesting. I daresay he knows that you can arrange numbers carrying out that law in an infinite series. Thus 5, 8, and 13; 8, 13, and 21; 13, 21, and 34; 21, 34, and 55; and so on. It is much easier to imagine a composition of 34 or of 55 bars than one of 13 or 21 bars. I only mention this to show that the law of the golden mean which is observed instinctively, and of which very possibly Beethoven was entirely ignorant, is one of general application. And I think that the fact that Beethoven unconsciously observed it with such fidelity is one of the clearest proofs of the high character of his genius as a composer.

Mr. H. H. STATHAM.—I was very much interested in the line which the paper took, because I have always felt instrumental composition as being an organic structure; and the facts which the lecturer brought out, although they are quite new to me, do not surprise me in the least. I think anyone would see it was only natural to find that the organic structure of music would resolve itself into proportions which have a certain relation to each other, as we see in the case of architecture. I think the analogy with architecture is even stronger than the lecturer admitted. Both arts deal with abstract proportions, and have no relation to physical nature. I suppose if you were to analyse the music of Mozart or Haydn in the same way you would find the same results [Mr. Ernest, "You would"]; but it is a most interesting thing that so romantic a composer as Beethoven should follow the same law. With regard to Beethoven's *Finale* in the C minor Symphony, I have always felt that the *Finale* is the *raison d'être* of the whole work. Spohr made the criticism that the first movement was not long enough for a great symphony. He was right, if the greatness of the symphony was to be looked for in the first movement; but this was not a symphony on ordinary lines, and the great climax was to be in the *Finale*. With regard to the "Eroica," it always seemed to me that the *Finale* was not quite worthy of the rest. It was made mainly from a subject used before, and I have always had the impression that it was composed hastily to finish the Symphony by a certain date. With regard to the first movement of the Op. 109 Sonata, I should not call the *Adagio* passage a "second subject.' I think the whole first movement is a prelude in free fantasia form, and not in sonata form; the main object of the whole work is the set of variations at the end. The

Finale of Op. 111 is a curious example of a return to the tone-play of his earlier type. It is to a great extent a working up of brilliant passages. It is splendid, but it still shows Beethoven's love of brilliancy on the keyboard which marks some of his earlier sonatas. I cannot agree with the lecturer in admiring Beethoven as a writer of fugue. You cannot reckon the fugues in his sonatas among the finest examples of the form. The choral fugue in the Mass in C, "Cum sancto spiritu," no doubt is a masterpiece, as clear as Handel's work. But in a general way I rather agree with Moscheles when he said that he "did not like Beethoven trying to be contrapuntal." With regard to the figures and the proportions which the lecturer gave us I could not help feeling that you should not look on the first part as so distinct from the rest. To me it seems rather that you should link the first part to the working-out section, and then the *reprise* forms the complement of this; but it does not very much affect the main theory. The fact of these regular proportions being adhered to is a most interesting one, though not in the least surprising; and I think we ought to be very much obliged to the reader of the paper for having put it before us so clearly.

Mr. Langley.—In the first place I should like to say just a few words with regard to the *Adagio* of Beethoven's Op. 111. I think it has been very much misconceived by the last speaker in considering it mere tone-play. Perhaps it is the only case in which the variation form has become organic. It is a most wonderful conclusion to that composition which otherwise would exist in one movement only, stamping it as it were with a great chord of C major. I cannot give any idea of its effect upon me; the nearest approach to an adequate description of it in words that I know is the late Bettina Walker's sonnet entitled "The *Adagio* of Beethoven's last Sonata," contained in a volume of poems left by her and published after her decease. If any words could compass the meaning of this divine *Adagio* we have them there. But to return to our more immediate subject, I would say a word about Beethoven's return to the Fugue form. I think we should be opposed to the idea that Beethoven by his occasional use of the fugue in his later works meant to show that it was more powerful in expression than the sonata form. We must remember that his use of it was very limited; I think in only two of his sonatas, Op. 106 and 110, has he any extended use of it. There is a small fugue in Op. 101, but it is very irregularly developed. We get a fugue in the Variations in E flat, Op. 35, and also one in the Diabelli Variations, Op. 120. There is, further, the great quartet fugue in B flat, Op. 133, and another of somewhat loose construction in his quartet, Op. 59, No. 3.

But with these exceptions I think we have not much fugue in Beethoven. With regard to his use of this form we must remember that it is very different from the use that was made of it by Bach and Handel, and even later by Mendelssohn. With them the expression, if I may so say, was to some extent only a secondary consideration. The music was beautiful in respect of tone-play, and perfect from the point of view of form, but with Beethoven we find a fugue was quite subservient in harmonic design and general treatment to the emotions intended to be thereby expressed; hence his great freedom in fugue writing. For instance, in the Op. 110, the fugue is interrupted by the recurrence of that beautiful *Arioso*. What does it all mean? It seems to me that here the fugue stands for a voice outside himself, speaking to him, and that Beethoven, having given expression to his own feelings in that sad *Arioso* that comes before it, becomes for a second time so absorbed in himself that the fugue disappears for a time, till finally it asserts itself again in a grand choral form with a most wonderful accompaniment orchestrally conceived. I think Beethoven's use of the fugue in this case was to give a sort of concreteness to a very important idea—to crystallise it. With regard to Beethoven's own views about fugue, von Bülow gives us the following account in his notes to the Cotta edition of Op. 110. He relates that Beethoven once said to Carl Holz, the second violin of his quartet: "There is no art in making a fugue; I have made dozens of them during my time of study; but fancy also will maintain her rights, and at this day a different, a really poetical element must enter into the traditional form." I think, then, we shall fall into a grievous error if we conclude that Beethoven, by the adoption of the fugue form in some of his later works, regarded it as a higher or greater means of expression than the sonata form.

Mr. WALEY.—I should like to ask the lecturer whether, in reckoning the proportions, he took the repeats into account?

Mr. ERNEST.—I have always reckoned them both with the repeat and without. In some cases the result comes right with the repeat, and in others without. I think the suggestion is not too far-fetched that, when the repeat was intended, he made the length of the other part conformable, but in other instances he put in the repeat mark merely because it was customary.

Mr. WALEY.—It would appear from that, that in some cases the repeats are much more important than in others.

Mr. ERNEST.—Yes.

Mr. CORBETT.—This proportion would serve as a sort of guide in deciding whether a repeat should be observed or not. Such a rule is rather wanted in modern times.

Mr. WALEY.—But in instances where the repeat is wanted the proportions would be disturbed by omitting it.

Mr. SOUTHGATE.—I am sure we have all heard Mr. Ernest's paper with interest. Not only his analyses, but his peroration, were exceedingly fine. I suppose we have all read some time during our musical career about the science of numbers and proportion in music. It seems that a large part of Mr. Ernest's paper has been devoted to proving that. And though these proportions are not absolutely exact, they seem near enough to be striking. I would submit however that the law of proportion is not one that can be adequately carried out even in architecture. In the case of our cathedrals we find that many of them differ very greatly in the relative length of nave, proportion of transept, width of aisles, and so on, and yet we are very well satisfied with them. If a law is immutable and innate in art of every kind, surely a cathedral does not conform to the law, but rather seems to go against uniformity. It makes one think whether after all that the whole effect is not very far removed from an accident. With regard to music, surely the proportion of the movements depends not merely on the length of the bars, but the multiples of the bars—mostly by fours. I should like to ask Mr. Ernest if he has applied his theory to such pieces of music as one in $\frac{4}{4}$ time?

Mr. ERNEST.—No.

Mr. SOUTHGATE. — I was going to instance one from Tschaikowsky's Symphony, because the law should apply also to pieces which are not written in $\frac{3}{4}$ or $\frac{4}{4}$ time. If Mr. Ernest's remarks only refer to the sonata form, then we must place against it this double indictment, that it will apply to only one type of music and not to other forms. If on the other hand it does apply to others, it would be of interest to see how far it applies to such perfect little pieces as those in Mendelssohn's "Lieder ohne Worte." What is the result of the proportional theory as tested there? I think the law should stand for something much more than it appears from the analysis of Beethoven's sonatas. With regard to the contrapuntal work, I feel with those who have spoken that Beethoven was not a notable contrapuntal writer. We know he did not study counterpoint very hard in his young days. I confess to being much surprised to hear the word emotional applied to his fugues. I think some of Bach's fugues are emotional, and Mendelssohn's E minor Pianoforte Fugue intensely so, but really a fugue is hardly intended to stand as an emotional piece of music. Much of the old contrapuntal music is more allied to the mechanical than the emotional type. If this law is anything more than an accident, I would suggest to our lecturer that he should continue his investigations into other forms of

music, even Chopin's Romances, &c., and afterwards try it on some works of Handel, and see whether it applies.

(A vote of thanks to Mr. Ernest was passed unanimously.)

Mr. ERNEST.—I should like to say one or two words in reply. First of all with regard to what has just been said as to my applying the law only to the sonata form. I said distinctly that I applied it in the first instance to the sonata form because in the shorter forms the proportions are so apparent that it does not seem necessary to apply it. In the sonata form, with its various parts, it is so much more difficult to trace distinct symmetry. I may add that I shall certainly continue these researches as I have done with regard to the works of other masters, and mainly with regard to those which are written in sonata form. I do not think I said I was an intense admirer of Beethoven's fugues. I am of some of them, *e.g.*, of the one in the Sonata Op. 111. With regard to the fact that there occur so few in Beethoven's instrumental works, I think the point is not how many were written, but when they were written. If he wrote three fugues in the last sonatas and none in all the earlier ones, I think the form must have had some peculiar attraction for him in the last years of his life. With regard to another remark, that these figures might be merely coincidences, I do not see how it is possible that out of fifty-five movements forty-two should be constructed according to this law by coincidence, all the more when I have shown that of the remaining works there are eleven showing some peculiar relation between the various parts as well.

February 10, 1903.

CHARLES MACLEAN, Esq., Mus.D., Vice-President,
In The Chair.

NATIONAL OPERA IN RUSSIA.

(THIRD PAPER)

By Mrs. Newmarch.

In my last paper on the development of Russian opera, I spoke of Dargomijsky and Moussorgsky, whose dramatic and realistic tendencies separated them to some extent from the direct influence of Glinka; and I also gave some account of Serov, the one thorough-going disciple of Wagner whom Russia has produced. To-day, I return with Borodin to that original type of national, lyric opera which Glinka inaugurated in "A Life for the Tsar."

Those who are interested in Russian music may have learnt something of Borodin's life from my translation of "Borodin and Liszt," a book based on Vladimir Stassov's admirable biography of the composer. Acting on this assumption, I will not trouble you with many biographical details. We know that Borodin inherited from his father certain racial qualities which put him in closer touch with Oriental sentiment than could have been the case with a composer of purely Russian origin. Alexander Borodin, born at St. Petersburg in 1834, was the illegitimate son of a great personage, The Prince of Imeretia, one of the fairest of the Georgian provinces, which the Russian General Todleben rescued from Turkish occupation in 1770. The reigning princes of Imeretia boasted that they were directly descended from the Psalmist David, and quartered the harp and sling in their arms.

Borodin's education was confided chiefly to his mother. As a boy his capacities balanced evenly between music and science; but having his living to make, he decided in favour of the latter and became, first an army doctor, and afterwards

a distinguished Professor of Chemistry at the College of Medicine in Petersburg. As regards music, he remained until his twenty-eighth year an intelligent amateur. He played the piano, the violoncello and the flute with some facility, tried his hand at song-writing, and enjoyed taking part in Mendelssohn's chamber-music. So far, he knew very little of Beethoven, and had scarcely even heard of Schumann or Liszt. The raw material of a musician was in him, but circumstances were against its becoming developed and refined. It is clear that until he met Balakirev, in 1862, there was never any serious conflict between duty and inclination. Borodin had a sane, optimistic temperament which disposed him to be satisfied with the career he had chosen, and in which he seemed destined for unusual success. Unlike Tchaikovsky, who felt himself an alien spirit among the bureaucrats and minor officials with whom he was associated in the Ministry of Justice, Borodin was genuinely interested in his work. But no one with a spark of artistic enthusiasm could pass under Balakirev's influence and be the same man as before. Within a few months of their first meeting, the history of Cui and Moussorgsky had been repeated in Borodin. All his leisure was now consecrated to the serious study of music, Harmony and musical analysis he worked up with Balakirev; and everyone seems to be agreed that counterpoint came to him by a sort of intuition. His early marriage to a woman of considerable talent, whose rendering of Chopin is still spoken of as quite out of the common, was no doubt an important factor in his musical development.

Borodin's youth had been spent chiefly in cities; consequently he did not start life with that intimate knowledge of the folk music which Balakirev and Moussorgsky had acquired. But his perception was so quick and subtle, that no sooner had his attention been called to the national element in music than he began to use it with mastery. This is already noticeable in his first Symphony in E flat major. This work is not free from the faults of inexperience, but it displays all the potential qualities of Borodin's talent—poetical impulse, a fine taste, an originality which is not forced, and a degree of technical facility that is astonishing, when we realise that music was merely the occupation of his rare leisure hours. Stassov saw in Borodin the making of a true national poet, and encouraged his secret ambition to compose an epic opera. He first took up the subject of Mey's drama "The Tsar's Bride"; but his progress was so frequently interrupted that his interest flagged. It needed, however, a subject of unusual attraction to keep him faithful amid many preoccupations to such a long and difficult task. But in 1869 Stassov believed he had found an ideal source from which to

draw the libretto of a great national opera, and sketched out a rough plot which he entreated Borodin to consider. It is not easy to convey to those who have not studied the early Slavonic literature any just and clear idea of the national significance of "The Epic of the Army of Igor." The original manuscript of this rhapsody or Saga was bought from a monk by Count Moussin-Poushkin as late as 1795, and published by him in 1800. Unfortunately the original document was among the many treasures which perished in the burning of Moscow in 1812. Its authenticity has since been the cause of innumerable disputes. Many scholars, including our own Professor of Slavonic languages at Oxford (Mr. W. R. Morfill), are disposed to regard it as one of those many ingenious frauds—like the Poems of Ossian—which were almost a feature in the literature of the 18th century. Others affirm that all the Russian poets of the 18th century put together had not sufficient imagination to have produced a single line of the "Epic of Igor." In any case it is so much more interesting than most of the mediæval Slavonic Chronicles, and has taken so strong a hold on the popular imagination, that the majority prefer to believe in its genuine origin in spite of these differences of opinion among the learned. In order to give some idea of its significance and interest, perhaps I may compare it—in these respects—with the Arthurian Legends. The period is of course much later—the close of the 12th century. Briefly stated, the book of "Prince Igor," planned by Stassov and written by Borodin, is as follows. The Prologue takes place in the market-place of Poultivle, the residence of Igor, Prince of Seversk. The Prince and his army are about to start in pursuit of the Polovtses, an Oriental tribe of Tatar origin. Igor wishes to meet his enemies in the plains of the Don, whither they have been driven by a rival Russian prince, Sviatoslav of Kiev. An eclipse of the sun darkens the heavens, and at this fatal presage the people implore Igor to postpone his expedition. But the Prince is resolute. He departs with his youthful son Vladimir Igorievich, commending his wife Yaroslavna to the care of his brother-in-law, Prince Galitsky, who remains to govern Poultivle in the absence of its lord. The first scene depicts the treachery and misrule of this dissolute nobleman, who tries to win over the populace with the assistance of two deserters from Igor's army. Eroshka and Skoula are players on the *goudok* or rebeck, types of the gleemen or minnesingers of that period. They are the comic villains of the opera. In the second scene of Act I., some young girls complain to the Princess Yaroslavna of the abduction of one of their companions, and implore her protection from Prince Galitsky. Yaroslavna discovers the perfidy of her brother, and after a violent scene drives him

from her presence, at the very moment when a messenger arrives with the news that Igor's army has been defeated on the banks of the Kayala. "At the third dawn," says the rhapsody, "the Russian standards fell before the foe, for no blood was left to shed." Igor and Vladimir are taken prisoner and the Polovtses are marching on Poultivle. The news of this heroic disaster causes a reaction of loyal sentiment, and, as the curtain falls, the Boyards draw their swords and swear to defend Yaroslavna to the death.

The second and third acts take place in the enemy's camp, and are full of Oriental colour. Khan Kontshak, as depicted in the opera, is a noble type of Eastern warrior. He has one beautiful daughter, Kontshakovna, with whom the young Prince Vladimir falls passionately in love. The serenade which he sings before her tent is perhaps the most exquisite number in the whole work. There is also a fine bass solo for Prince Igor, in which he gives vent to the grief and shame he suffers in captivity. Ovlour, one of the Polovetz soldiers, who is a Christian convert, offers to facilitate Igor's escape. But the Prince feels bound by the chivalrous conduct of Khan Kontshak to refuse his offer. In the second act the Khan gives a banquet in honour of his noble captive, which serves as a pretext for the introduction of Oriental dances, choruses and gorgeous scenic effects.

In the third act the conquering army of Polovtses return to camp, bringing the prisoners and spoils taken from Poultivle. At this sight, Igor, filled with pity for the sorrows of his wife and people, consents to flee. While the soldiers are dividing the spoil from Poultivle, Ovlour plies them liberally with koumiss and, after a wild orgy, the whole camp falls into a drunken sleep. Borodin has been severely censured by some critics for the robust realism with which he has treated this scene. When the Khan's daughter discovers their secret preparations for flight, she entreats Vladimir not to forsake her. He is on the point of yielding, when his father sternly recalls him to a sense of duty. But Kontshakovna's glowing Oriental passion is not to be baulked. At the last moment, when Ovlour gives the signal for escape, she flings herself upon her lover, and holds him back until Igor has mounted and galloped out of the camp, unconscious that his son is left behind. Detained against his will, Vladimir finds no great difficulty in accommodating himself to circumstances. The soldiers would like to kill him in revenge for his father's escape. But the Khan philosophically remarks: "Since the old falcon has taken flight, we must chain the young falcon by giving him a mate. He must be my daughter's husband." In the fourth act Yaroslavna sings

her touching lament, as she stands on the terrace of her ruined palace and gazes over the fertile plains, now ravaged by the hostile army. Even while she bemoans the cruelty of fate, two horsemen come in sight. They prove to be Igor and the faithful Ovlour, returned in safety from their perilous ride. The joy of reunion between husband and wife may be perhaps a trifle over-emphasized. It is the man who speaks here rather than the artist; for Borodin, who lived in perfect domestic happiness with his wife, knew, however, many long and enforced separations from her. The picture of conjugal felicity which he gives us in "Igor" is undoubtedly reflected from his own life.

The opera closes with a touch of humour. Igor and Yaroslavna enter the Kremlin at Poultivle at the same moment as the two deserters Eroshka and Skoula. The precious pair are shaking in their shoes, for if Igor catches sight of them they are lost. To get out of their difficulty they set the bells a-ringing and pretend to be the first bearers of the glad tidings of Igor's escape. Probably because they are merry ruffians and skilful with their *goudoks*, no one reveals their treachery and they get off scot-free

When we consider that "Igor" was written piecemeal, in intervals snatched between medical commissions, boards of examination, lectures, and laboratory work, we marvel to find it so astonishingly cohesive, so delightfully fresh. Borodin describes the difficulties he had to contend with in a letter to an intimate friend. "In winter," he says, "I can only compose when I am too unwell to give my lectures So my friends, reversing the usual custom, never say to me 'I hope you are well,' but 'I do hope you are ill.' At Christmas I had influenza, so I stayed at home and wrote the Thanksgiving Chorus in the last act of 'Igor.'"

Borodin took his work very seriously, as we might expect from a scientist. He had access to every document bearing on the period of his opera, and he received from Hunfalvi, the celebrated traveller, a number of melodies from Central Asian tribes which he employed in the music allotted to the Polovtses. But there is nothing of meticulous pedantry apparent in Borodin's work. He has drawn a vivid picture of the past, a worthy pendant to the historical paintings of his contemporary Vasnietsov, who has reconstructed mediæval Russia with such astonishing force and realism. Borodin modelled his opera upon Glinka's "Russian and Lioudmilla" rather than on Dargomijsky's "Stone Guest," and this was considered a retrograde step by the advanced members of the New School. He had his own personal creed as regards operatic form. "Recitative does not conform to my temperament," he says. "Although according

to some critics I do not handle it badly, I am far more attracted to melody and cantilena. I am more and more drawn to definite and concrete forms. In opera, as in decorative art, minutiæ are out of place. Bold outlines only are necessary. All should be clear and fit for practical performance from the vocal and instrumental standpoint. The voices should take the first place; the orchestra the second.'

"Prince Igor," in its finished form, is actually a compromise between the new and the old methods; for the declamation, although not of such primary importance as with Dargomijsky, is more developed than with Glinka. Borodin keeps to the accepted divisions of Italian opera, and gives to Igor a long aria quite in the traditional style. The music of "Prince Igor" had some features in common with Glinka's "Russlan," in which the Oriental element is also made to contrast with the national Russian colouring. But the Eastern music in Borodin's opera is more daring and characteristic. Borodin, too, had far more humour than Glinka, who could never have created two such broadly and robustly comic types as Skoula and Eroshka. There is a distinctly Shakespearian flavour in the quality of Borodin's humour. In this one respect he approaches Moussorgsky.

In the atmosphere of healthy, popular optimism which pervades it throughout; in the prevalence of major over minor keys; in the straightforwardness of its emotional appeal—"Prince Igor" stands almost alone among Russian operas.

The spirit of pessimism which darkens Russian literature inevitably crept into the national opera; because music and literature are more closely associated in Russia than in any other country. Glinka's "A Life for the Tsar" is a tragedy of loyal self-sacrifice; Tchaikovsky took his brooding melancholy into his operatic works, which are nearly all built on some sad or tragic libretto; Cui deals in romantic melodrama; Moussorgsky depicts the darkest phases in Russian history. Only "Prince Igor" comes as a serene and restful interlude to the shattered digestion that has "supped full o' horrors" on Russian national opera. Nor is it actually less national because of its optimistic character. There are two sides to the Russian temperament. The one overshadowed with melancholy and mysticism; prone to merciless analysis, seeing only the contradictions and vanities of life, the mortality and emptiness of all that is. I doubt if this is the true Russian temperament: if it is not rather a morbid condition, the result of sudden and copious doses of culture, administered too hastily to a people just emerging from a semi-barbaric state. The kind of result that follows alcohol taken on an empty stomach. A quick elation, an equally

speedy reaction to extreme depression. The other side of the Russian character is really more normal. It shows itself in the popular literature. The folk-songs and *byliéni* are not all given up to resentful bitterness and despair. We find this healthier spirit in the masses, where it takes the form of a desire for practical knowledge, a shrewdness in making a bargain and a co-operative spirit that properly guided would accomplish wonders. It shows itself too in a great capacity for work which belongs to the vigorous youth of the nation and in a cheerful resignation to inevitable hardships. Borodin was attracted by temperament to this saner aspect of national character.

The most distinctive feature of Russian art and literature is this power to reflect clearly, as in a glass, the various phases of the national life. This has been also the aim of the Russian composers with few exceptions. Borodin cherished no illusions as to getting the imprimatur of Berlin or Paris stamped upon his work. "Prince Igor," he said, "is essentially an opera for Russians. It would never bear transplantation." So far, it has not been a work for Russians in the fullest sense, because it has never been offered to the right public. In Russia there exists a condition of things sometimes advocated for England—a State-supported opera. The result is that the State is just as anxious to have no deficits at the end of the season as any private speculators. Those works are given which draw the best list of subscribers; and opera-goers in Russia seem to be even more limited by the decrees of fashion than they are here. Consequently, works like "Prince Igor," which ought to be mounted at the People's Palace in Petersburg for the enjoyment of a large and really popular audience, have to await the patriotic enterprise of rich men—like Mamantov—who occasionally give a series of Russian operas at their own expense.

Borodin did not live to see the performance of his work. He died with tragic suddenness at an evening party, in 1887, leaving unfinished most of the orchestration and the Introduction of the opera. The former was completed by his friend Rimsky-Korsakov in strict accordance with the composer's intentions. It is easy to see that the instrumentation of "Igor" and of Borodin's second Symphony in B minor are practically by the same hand. No manuscript of the Introduction was forthcoming, but fortunately the music was safely stored in the brain of a gifted young composer—Glazounov—who had frequently heard it played by Borodin, and who volunteered to write it from memory, a task which he fulfilled to the satisfaction of all the composer's friends.

CESAR CUI.

In almost every respect Cui offers a complete contrast to Borodin. True, he shares with the latter the lyrical rather than the declamatory tendency, but whereas Borodin is a follower of Glinka as regards national style, there is in Cui a strong blend of foreign influences. In Cui's music we never quite lose sight of his French descent; just as in that of Tchaikovsky we discern from first to last some souvenir of his earliest love in music—the Italian opera. Cui's position as a composer strikes me as paradoxical. The first disciple of Balakirev and an almost fanatical supporter of the New Russian School, we might expect some strong progressive and national tendency in his music. We might suppose that he would assume the virtue of nationality even if he had it not. But this is not the case. The French element, curiously combined with Schumann's influence, is everywhere predominant. Nevertheless, Cui has been a distinct force in the evolution of the Russian School, for to him is generally attributed the origin of that "second generation" with whom inspiration comes second to the cult of form, and "the idea" to its elaborate treatment. This later tendency is represented by Glazounov in his early work, but more completely by Liadov and one or two composers for the pianoforte.

Cui was born at Vilna, in Poland, in 1835. His father had served in Napoleon's army, and was left behind during the retreat from Moscow in 1812. He married a Lithuanian lady and settled down as teacher of French in the Vilna High School. Here Cui received his early education. He showed a precocious musical talent and, besides learning the pianoforte, picked up some theoretical knowledge from Moniuszko; but he never—as is sometimes stated—received regular instruction from the Polish composer. Except for what he owed in later life to Balakirev's guidance, Cui is actually that *rara avis*, a self taught composer.

From the time he entered the School of Military Engineering in 1850, until he passed out with honours in 1857, Cui had no time to devote to his favourite pursuit. On obtaining officer's rank he was appointed sub-professor of fortification, and lecturer on the same subject at the Staff College and School of Artillery. Among his pupils he reckoned the present Emperor Nicholas II. Cui has now risen to be a Lieut.-General of Engineers, and is also President of the Imperial Musical Society. At first these appointments barely sufficed to keep him, and when he married—early in life—he and his wife were obliged to add to their income by keeping a preparatory school for boys intended eventually for the School of Engineering. Here

Cui taught all day, when not lecturing in the military schools, and his nights were largely devoted to the study of harmony, and afterwards to composition and musical criticism. Very few of the Russian composers, with their dual occupations to fulfil, have known the luxury of an eight hours' day.

Cui first met Balakirev in 1856, and was introduced by him to Dargomijsky. His first operatic attempt, a work in one act entitled "The Mandarin's Son," is a very slight composition quite in the style of Auber. An opera composed about the same time (1858—1859) on Poushkin's dramatic poem "The Captive in the Caucasus" was a much more ambitious effort. Many years later—in 1881—Cui considered this work worth remodelling, and he also interpolated a second act. The patch is rather obvious, but "The Captive in the Caucasus" is an interesting work to study, because it reveals very clearly the difference between Cui's early and later styles But Cui's reputation as an operatic composer only actually began with the performance of "William Ratcliff" in 1861.

A composer who is also a critic is certainly at a disadvantage in many respects. Cui, who contributed during the sixties a whole series of brilliant—and often mercilessly satirical—articles to the Russian press, gave his adversaries an excellent opportunity to attack him for inconsistency when "Ratcliff" made its appearance. Cui's literary precepts do undoubtedly move somewhat in advance of his practice as a composer, and "Ratcliff" conforms in very few respects to the creed of the New School as formulated by him in his well-known articles "La Musique en Russie." That is to say, instead of following the example of Dargomijsky in "The Stone Guest," Cui to a great extent replaces free-recitative by arioso, while at the same time the absence of such broad and flowing melody as we find in the operas of Glinka, Borodin, and Tchaikovsky places "William Ratcliff" in a position midway between declamatory and lyric opera. Some of the hostile criticisms showered upon this work are not altogether unjust. The subject of Heine's early tragedy —the outcome of his "sturm und drang" period—is undoubtedly crude and sensational. It was hardly likely to be acceptable to a nation whose dramatic traditions are based on the realistic plays of Gogol and Ostrovsky, rather than on the romanticism of Schiller's "Robbers" and kindred dramas. The music is lacking in realistic power, and certainly does not fulfil Dargomijsky's dictum that "the note must represent the word." Although the action of "William Ratcliff" takes place across the border, the sentiment and colouring could hardly satisfy a Scottish composer But Cui's critics show their bias when they neglect to praise the

grace and tenderness which characterize the music of his heroine *Mary*, and the sincerity and warmth of emotion which sometimes—as in the love-duet between *William* and *Mary*—kindles and glows into intense fervour.

Cui has composed eight operas in all. It is impossible within the limits of a short paper to deal with their libretti. I can only sketch the leading characteristics of each work. "Ratcliff" was followed by a series of admirable songs which seemed to indicate that Cui's talent as a vocal composer was rapidly maturing. A new opera, "Angelo," completed and performed in Petersburg in 1876, is generally regarded as the fruit of this maturity. The book of "Angelo" is based upon a play by Victor Hugo. It is a tale of passionate love; of rivalry between two beautiful and contrasting types of womanhood, of plotted revenge and final atonement, when *Thisbe* saves the life of her rival at the expense of her own. The scene is laid in Padua during the middle of the 16th century. In form "Angelo" approaches nearer to "The Stone Guest" than does "William Ratcliff." Cui now displays considerable skill in the use of the melodic recitative; while the orchestration is on a far higher level than in his previous works. But although the dramatic effects in "Angelo" are broader and more forcible than anything which he achieved before or since, Cui remains by temperament a painter of miniatures and cabinet pictures. In solo and monologue—above all in love duets—he is far more in his element than when dealing with choral masses or broad, dramatic movements. Cui is much more convincing in the creation of female than of male parts; and the two heroines of "Angelo," the one passionate and intense, the other tender and timid, are admirably realised. For intensity of passion, the scene in which *Thisbe* reveals her love to *Rodolf* has been compared by some enthusiastic admirers of Cui to the love-duets in "Tristan und Isolde."

In "Angelo," Cui made a supreme effort to achieve breadth of style and to break through the limitations he had imposed upon himself by adopting the methods and peculiarities of such composers as Schumann and Chopin. But this effort seems to have brought about a speedy reaction. After the appearance of "Angelo" we notice that his work becomes more distinctly finical and artificial. His military duties and his literary work made increasing demands on his time, and the flow of inspiration dropped below high-water mark. Songs and miniatures for pianoforte were now his chief preoccupation, and great undertakings being perhaps out of the question, he became absorbed by the cult of small and finished forms, and fell increasingly under the influence of Schumann. It was at this time that he wrote the

additional act for "The Captive in the Caucasus," to which I have already referred. Here the contrast between the simplicity and sincerity of his first style and the formal polish and "preciousness" of his middle age is very pronounced. The use of local colour in "The Captive of the Caucasus" is not very convincing. Cui is not an adept in the employment of Oriental themes, and the Caucasus has never been to him a source of romantic inspiration as it has proved to so many Russian poets and composers.

An opera in four acts, "The Saracen," based on a play by Dumas-père, "Charles VII. chez ses grand varseaux," was first performed at the Marinsky Theatre, St. Petersburg, in 1889. The subject is gloomy and highly dramatic, with sensational elements almost as lurid as in "William Ratcliff." But, as usual, Cui is most successful in the purely lyrical numbers: the love-scenes between the *King* and *Agnes Sorel*. Here the music, though tender to effeminacy, has that touching and sensuous quality which caused a celebrated French critic to speak of Cui as "the Bellini of the North."

"Le Flibustier" was composed between 1888-1889, and dedicated to that distinguished amateur Countess Mercy Argenteau, whose influence counted for so much in Cui's later musical development. This work, written to a French libretto from a play by Jean Richepin, was originally mounted at the Opéra Comique in Paris in 1894. It is frankly French in style, and contains some graceful and effective music, but lacks the natural emotion and ardour which in "Ratcliff" atone for many defects of style and limitations of expression. When I was in Russia, in the spring of 1901, Cui played and sang to me a "dramatic scene," or opera in one act: "A Feast in Time of Plague." It was a setting of a curious poem by Poushkin, which he pretended to have translated from Wilson's "City of the Plague." A young English blood, *Walsingham*, actually dares to indulge in "impious orgies" during the visitation of the Great Plague. The songs of the revellers are interrupted at intervals by a funeral march, as the dead-cart goes its round to collect the victims. I was under the impression that the work was intended as a dramatic cantata, but I see Riemann now describes it as an opera in one act. The song for *Mary, Walsingham's* mistress, which is Scotch in character and has considerable pathetic charm, struck me as the one spontaneous number; the rest being rather an effort to fit music, not essentially tragic in character, to a subject of the gloomiest description.

Cui's latest operatic work, from Guy de Maupassant's "Mam'selle Fifi," is still in manuscript and has not yet been performed.

In summing up Cui's position as a composer, I must return to my conviction that it is paradoxical. First, we may conclude from the preponderance of operatic music and songs that Cui is more gifted as a vocal than as an instrumental composer. He needs a text to bring out his powers of psychological analysis. But when we come to examine his music, the methods—and even the mannerisms—of such instrumental composers as Chopin and Schumann are reflected in all directions. A style founded obviously on Schumann will necessarily lack the qualities which we are accustomed to regard as essential to a great operatic style. Cui has not the luminous breadth and powerful flow of simple and effective melody which we find in the older type of opera, nor the pre-eminent skill in declamation which is indispensable to the newer forms of music-drama. His continuous use of arioso becomes monotonous and ineffective, because with him the clear edges of melody and recitative seem perpetually blurred. This arises partly from the fact that Cui's melody, though delicate and refined, is not strongly individual. He is not a plagiarist in the criminal sense of the word, but the influences which a stronger composer would have cast off at maturity seem with Cui to obtain a stronger hold as time goes on. His talent reminds me of those complex recipes for pot-pourri which we find in our great-grandmothers' day-books. It is compounded of many more or less delightful ingredients: French predilections, Schumannesque mannerisms, some essence distilled from the grace and passion of Chopin, a dash of Russian sincerity – a number of fragrant and insidious aromas, in which the original element of individuality is smothered in the rose leaves and lavender winnowed from other people's gardens. Then there is a second perplexing consideration which follows the study of Cui's music. Possessed of this fragrant but not robust talent, Cui elects to apply it to themes of the ultra-romantic type with all their grisly accompaniments of moonlight heaths, blood-stained daggers, vows of vengeance, poison-cups, and the rest. It is as though a Herrick were posing as a John Webster. Surely in these curious discrepancies between the artist's temperament and his choice of subject and methods of treatment we find the reason why of all Cui's operas not one has taken a firm hold on the public taste in Russia or abroad. And this in spite of their lyrical charm and graceful workmanship.

One word about Cui as a critic and my paper is complete. Of all the Russian writers on musical subjects he is best known to us by his pamphlet "La Musique en Russie." But although he has done good service in making known to Western Europe the wonderful activity of the New Russian School, his view must not be accepted as comprehensive.

Setting aside some of his criticisms of Tchaikovsky as things said in the heat of controversy, when we turn to his treatment of the members of his own School we find him as paradoxical in literature as in music. For although Cui has devoted years of his life to the defence and propagation of this national School, it is precisely where the strongest manifestations of nationality have appeared that his judgments are least sympathetic and impartial. His half-hearted appreciation of Rimsky-Korsakov, and his complete misunderstanding of the æsthetic aims of Moussorgsky, show that his sympathies and views are not wide enough to accept this movement towards artistic freedom in its full and entire signification. He is not, therefore, the ideal historian of the New School of Russian Music.

Mrs. Henry J. Wood (accompanied by Mr. Wood) sang the following illustrations to the paper:—

1. Recit. and Cavatina (*Prince Vladimir*) from Borodin's "Prince Igor."
2. Circassian Song, "Arioso de Marian," from Cui's "Le Prisonnier du Caucase."

DISCUSSION.

THE CHAIRMAN.—It is my business to focus, so far as I can, the feelings of the audience in expressing their thanks to our excellent entertainers. I confess when such an entertainment is given to us here, my own sentiments are compounded of diffidence and confidence. Diffidence, because the surroundings we have to offer to the entertainers are not wholly attractive. I have lately been to the meetings of the Astronomical Society at Burlington House, and have come away each time with a pang of jealousy that musical research should be such a Cinderella. The Society I have mentioned has a lecture-room nearly as good as Mr. Tree's theatre, it makes its arrangements *en luxe*, and it has thronged audiences. But the fact is that our Association does not appeal to any of those livelihood-earning instincts which help to fill other Societies, even musical organizations somewhat akin to our own; we meet only for the benefit of those who like musical research for its own sake, and consequently our main characteristic may be said to be that we are "poor but honest," as the biographies describe the parents of all eminent men. But on the other hand I feel a certain amount of confidence in this way, that the Association

is decidedly going up-hill. Membership has lately considerably increased, and I hope still further measures may be taken for making the Association popular. It is an open secret that our President, Sir Hubert Parry, is at this moment in communication with the authorities at Berlin regarding a very honourable position to be assigned to the Association in connection with the "Wagner Denkmal" Conference to be held there in the autumn—so that we enjoy some consideration abroad. I would say therefore to those who are so kind as to perform here—to the lady whose lovely voice we have just heard, and to her husband who is equally at home when performing on a Broadwood pianino or on an orchestra of 110—that in doing so they are helping us to push matters forward, and perhaps with such assistance we may even one day get to Burlington House. The lecturer is one of ourselves, and understands our position. This is the third time she has discoursed on the present subject, always with full information and well-balanced judgment. I think it will be found that in the end we agree with that judgment—even though she is rather severe upon Lieut.-General Cui. I hope she will finish the series.

(A vote of thanks was then passed to the lecturer and performers.)

Mr. SOUTHGATE.—I would echo the last remark of our Chairman in hoping that Mrs. Newmarch will go on with her subject, and tell us some more about Russian music. Thanks to Mr. Wood, we have had a considerable amount of Russian music at the Queen's Hall, and thanks to Mrs. Wood, we have heard some excellent vocal specimens. Of course beyond all this there is other music that we have not heard. Mrs. Newmarch has studied the subject so thoroughly that I am sure she is the one to lighten our darkness still more. I confess there is one type, if the type exists, and I presume it does, of which I should be glad to hear something. I should like to know whether there is in the Russian opera music any other type than that which seems so intimately associated with Sclavonic music—the peculiar depression and sudden exaltation which we find running through even the instrumental music of the country. You know for instance what the Italian operas are; there we get some very dramatic, ghastly and tragic music, and in addition also some light work. Rossini, though he spent the end of his days in Paris, gave us the "Barber of Seville," which is very different to many works that the Italian writers have written, and one would like to know whether there is in Russia anything of a comic nature which would induce a different method of musical treatment. I would like to say a word with reference to some remarks which fell from our Chairman. Those Members who come here show how

they appreciate the work of the Society, and how glad they are to hear the lectures and the music, and to take part in our discussions. But I might point out one thing: That our Association differs from those learned societies of which the Chairman has spoken which meet at Burlington House and have pleasant lodgings, and very important papers read. Practically only a small number of the Members of the Musical Association live in or near London. Fortunately, however, they have the advantage of reading the papers and the discussions, while the fact that they are satisfied with it is seen in the circumstance that they are quite willing to be Members of the Association and to pay their subscriptions, although they are precluded from hearing the papers, together with such charming music as we have had this afternoon. I am quite with the Chairman in desiring to improve the Society. If Members would exert themselves more, we might get additional Members. Many of the Members of this Association are professional musicians. It is exceedingly difficult for them to give up their engagements and come here. So though one would like to see them, it is not very easy for professional men to come. We did try the experiment once of having our meetings in the evening, and held them at the Royal Academy of Music; but this was not successful.

THE CHAIRMAN.—I was not reading a lecture, but making an apology.

MRS. NEWMARCH.—First, I should like to say in reference to finishing this course of papers, there are still two great operatic composers left to consider. Tchaikovsky and Rimsky-Korsakov. I do not include Rubinstein among the representatives of National opera. I think he demands quite separate treatment. But the other two composers are so important, they each require a paper. Tchaikovsky has written a great many operas—about twelve, I think—and Rimsky-Korsakov eight or nine. In answer to Mr. Southgate's question, there exists the type of opera he has mentioned, but it is not of great importance. All the great operatic composers in Russia have been inspired by serious subjects. I think it comes about in this way Literature and music are very closely connected there. No composer would choose a trivial subject. Almost all the operas about which I have spoken are founded on great literary works; and the literary masterpieces of the Russians are sad and tragic. They have light comic operas, but their names would hardly be known, and as a rule they are not successful in this style. In light opera the Russians give the preference to imported works. ("The Geisha" has been translated into Russian with extraordinary success.)

× Instruments
× Indian-American

SIR C. HUBERT H. PARRY, BART., PRESIDENT,

IN THE CHAIR.

THE WHISTLES AND REED INSTRUMENTS OF THE AMERICAN INDIANS OF THE NORTH-WEST COAST.

BY THE REV. F. W. GALPIN, M.A., F.L.S.

THE Pacific seaboard which bounds the territory of British Columbia on its west side is marked by frequent inlets backed by high mountain ranges and fringed with numerous islands, whose rocky heights, crowned with spruce and cedar, testify to their having at one time formed part of the mainland itself. Scattered along this coast in a territory about a thousand miles long by one hundred and fifty miles wide and separated from the inhabitants of the interior by natural barriers of hill and forest are certain Indian tribes of a peculiar and distinct character. Not only are their complexions surprisingly light coloured, — in some instances almost as fair as those of Europeans and in no way due to recent intermixture with white races—but in customs and laws, in arts and handicrafts, they show themselves superior to all other existing Indian tribes. It is with these "Indians of the North-West Coast" as they are called that the present paper deals, and for this purpose they may be divided into five closely related but distinct families*:—

1. THE SALISHAN inhabiting the eastern part of Vancouver Island and the opposite mainland.

2. THE WAKASHAN (including the Kwakiutl) who occupy the western side of Vancouver Island and the mainland north of the Salishan.

* *cf* Classification by J. W. Powell American Bureau of Ethnology, Vol VII., 1886, with map. Also F. Boas, Kwakiutl Indians, U.S. Nat. Museum Report (1895), reprint 1897, p. 320.

3. The Tsimshian who live on the mainland around the mouth of the Skeena River and immediately above the Wakashan tribes.

4. The Tlingit or Koluschan who hold the mainland north of the Tsimshian and also the northern part of Prince of Wales Island.

5. The Haida or Skittagetan who occupy the southern part of Prince of Wales Island and the Queen Charlotte Islands.

Of these five families the Tsimshian, Tlingit and Haida are the most superior in character and handicraft, and Dr. Franz Boas, who has closely studied the relationships existing between these tribes, is inclined to consider the last two as branches of one common stock.

Their technical skill is shown more particularly in weaving and carving, and specimens of their work in our museums testify to their remarkable ability. But while ample justice has been done by writers and explorers to these branches of industry, an equally remarkable development has been either overlooked or dismissed in a few short and unscientific comments.

I refer to the use amongst these tribes of certain wooden whistles and reed instruments which cannot but astonish musicians by their constructive excellence and striking originality. It may be that, in the words of Lieut. Niblack,* "some of their devices of this kind are essentially for the purpose of making a hideous noise," but the musical antiquarian will regard principles as well as effects; and among these distant tribes of the North-West Coast are to be found not only the principles of sound production employed in our modern organs and orchestral instruments, but also new ideas which will perhaps suggest musical possibilities at present unknown to us.

I will first of all give a classification of the instruments found amongst these tribes, omitting the drums and rattles which seem to be the common property of all American Indians. The drums are generally of the tambourine type,—a single membrane stretched over a shallow hoop—but occasionally a wooden tom-tom in box form without a membrane is used. The rattles, made of red cedar, are distinguished by their artistic and elaborate carving. Instruments of the horn type with cup mouthpieces appear to be unknown to them, as well as stringed instruments, so that the following classification includes all their peculiar musical properties.

* *cf.* Niblack Indians of the North-West Coast, U. S. Nat Museum Report, 1888, p. 331.

CLASSIFICATION.

GROUP A.—WHISTLES.

CLASS I.—Without finger-holes.

Division *a*.—Mouth blown.

Section 1.—*Stopt pipes.* (As well as the simple form, there are twin, triple, quadruple, quintuple, and sextuple whistles.)
Section 2.—*Half-stopt pipes.*
Section 3.—*Open pipes.*

Division *b*.—Mechanically blown.

CLASS II.—With finger-holes.

GROUP B.—REED INSTRUMENTS.

CLASS I.—Without finger-holes.

Division *a*.—Mouth blown.

Section 1.—*Double-beating reeds* :—
i. Lipped.
ii. Covered. (As well as the simple form, there are twin, triple, and quadruple covered reeds.)
Section 2.—*Single-beating reeds* :—
i. Lipped. (Also a twin form.)
ii. Covered. (Also a "double-action" form.)
Section 3.—*Retreating reeds* :—
i. Terminal. (Also a twin form.)
ii. Lateral. (Also a twin form.)
Section 4.—*Ribbon reeds* :—
(As well as the simple, there is also a multiple form.)

Division *b*.—Mechanically blown.

CLASS II.—With finger-holes.

This classification has been compiled from a personal examination of numerous specimens, some the property of the writer, others preserved in the United States Museum at Washington, the Metropolitan Museum of Art and the Natural History Museum at New York, the British Museum, the Pitt-Rivers Museum, Oxford, and the Ethnographical Museum, Cambridge; also from detailed and illustrated descriptions of collections at Victoria (British Columbia), and Berlin, and from the observations of Dawson, Swan, Niblack, and Boas.

Though other forms may doubtless exist differing from those here described in shape and size,—and two Indian instruments are seldom found alike*—so far as regards the

* The common Indian name for all these instruments, whether whistle or reed, is SE-Ā'NA

principles of sound production the enumeration is probably complete, and I wish to acknowledge my great indebtedness to the authorities of the National Museum at Washington; to Mrs. J. Crosby Brown, the donor of the unrivalled musical collection in the Museum of Art, New York; to the Ethnographical Department of the British Museum; to Professor Karl von den Steinen of the Etbnographical Museum, Berlin; and Mr. Henry Balfour, Keeper of the Pitt-Rivers Museum, Oxford. For many descriptive details my thanks are due to Miss F. Morris, of New York, and Mr. E. H. Hawley, of Washington.

After a description of the various principles I will make a few remarks on the use of these instruments by the Indians, and offer a suggestion as to the source from which they were probably derived.

Description of Principles.

Whistles (Group A) without finger-holes (Class I.).

Division *a*.—Blown by the mouth.

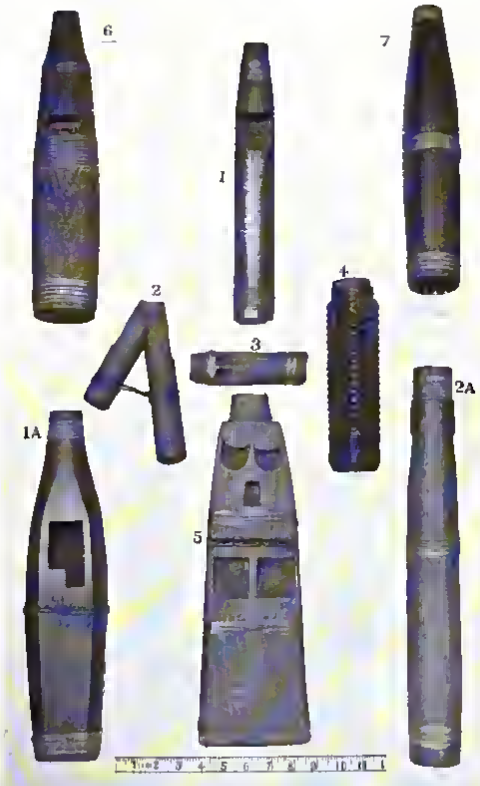
Section 1. *Stopt pipes.*—I place these first because there appears to be every reason for supposing that they were the earliest in use, and now they are the most frequently met with. The oldest existing whistles are of this kind, and the popularity of the stopt-pipe in contradistinction to the open, as in the flutes and bone whistles of other tribes, seems to point to a prehistoric source of origin to which I shall presently allude.

The whistles are made in a simple but clever manner. A piece of straight grained wood, preferably red cedar,* is procured and shaped outwardly by means of a knife to the required form. This is sometimes pear-shaped, but generally resembles an oval or cylindrical tube. Oftentimes it is square or with one flat face and a rounded back—more rarely a flattened, truncated cone. The wood is then split lengthwise along the grain—the lower half is hollowed out with great neatness until the sides are quite thin, a small block being left at the lower end and a large block at the upper. The other half is treated in the same way, but the hollow is not so deep, and an opening is cut through the side—the wood being cut away on the outside to form a lip. The upper blocks of both halves are then slightly grooved to form a shallow channel which, when the two pieces are fitted together again, allows free passage for the air over the languid or whistle embouchure. So deftly

* Besides red cedar (Thuja gigantea), spruce (Picea Menziesii) and cypress (Chamæcyparis Nutkaensis) are used. The wood was originally worked with flint, bone, or jade knives, and rubbed down with shark's skin. Iron was introduced by the Russians about 150 years ago

To face page 118.]

PLATE I.

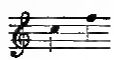


WHISTLES without finger-holes.

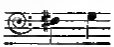
1. 1A. Stopt pipes, simple form. 2, 2A. Double-form. 3. Triple form (one at back). 4. Quadruple form. 5. Quintuple form. 6. Half-stopt pipe. 7. Open pipe.

is the wood split that no glue is required to render the joined pieces air-tight, but the whole is bound in two or three places with split spruce root or shredded cedar bark,—more rarely with animal sinew—and either left the natural colour or painted with appropriate devices. In some cases, especially with the rude ancient specimens, either the shrinkage of age or the imperfect splitting of unsuitable wood has required an outward application of dark resin along the joint—an unsightly but nevertheless efficient repair. The voicing of the whistles is wonderfully good and would do credit to many a professional organ-builder.

The old whistle (No. 1) painted with totemic devices, including the eagle, shows one of the earliest and simplest forms of the stopt pipe and sounds the F above middle C; while in No. 1A, the original of which is at Washington, and is of Haida make, the lip is curiously cut in two different planes. It sounds the A below middle C. The placing of two whistles simultaneously in the mouth probably suggested the twin or double whistle, and museum specimens show two simple whistles bound side by side, or as in No. 2 back to back. The latter specimen gives the notes—

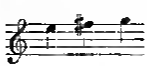


The next improvement was to construct the two instruments in the same block of wood either side by side or back to back; as in No. 2A,* which gives the notes—



In this case the wood is split twice, the middle section being hollowed out on either side, leaving a thin partition between the two tubes. In the Royal Ethnographical Museum, Berlin, there is shown a curious arrangement of the two whistles,† which are placed one above the other with their embouchures on the same side of the block. A channel passing behind the upper whistle conveys the air to the lower.

No. 3 is a small specimen of the triple whistle—two side by side in front and one at the back. The notes are—

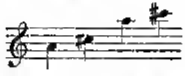


* This whistle may have been purposely overblown: when played thus it sounds a unison E flat above treble C.

† *cf.* Boas: Kwakiutl Indians, p. 445, Fig. 74. By mistake it is described as having four voices or notes instead of only two.

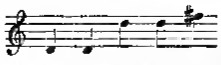
the second note being rather sharp. As in all these compound whistles, the notes can be sounded separately if desired. In the Oxford Museum there is a triple whistle from Alert Bay, formed of three separate instruments bound together with twisted cord, a small whistle being placed on either side of the tapering mouthpiece of a larger one. The notes are G below and G above treble C and C in alt.

No. 4 is a quadruple specimen giving the notes—



In these whistles the block of wood is split first of all on two opposite faces and then on the other two. On these narrower faces the two smaller whistles are placed. In the Berlin collection there is a quadruple whistle with a rounded base terminated by a short handle. It is of Kwakiutl make.

Quintuple whistles are rare, and No. 5 is an interesting and ancient specimen. Here the wood, which is cypress, is split but twice,—once for the two lower whistles and once again for the three upper whistles—the air passage to the small central tube being cut out in the thickness of the wood between the two upper-side whistles. It is bound with cedar bark and sinews and rendered air-tight by resin. The notes are—



Another form of quintuple whistle is in the Berlin collection.* It is in the shape of a cylindrical roller, from the circumference of which five slips of wood have been split off and the tubes for the whistles hollowed out of the five faces as in the simple whistle. In the Metropolitan Museum, New York, there is a specimen of a sextuple whistle constructed in the same way, but in the form of a truncated cone.

Section 2. *Half-stopt pipes.*—It is interesting to find that the charm of the half-stopt pipe—the Rohr flute of our organ-builders—has not been lost on the Indians, for here in specimen No. 6 we find the principle which for three centuries and a-half has found a place in our own instruments. In the bottom block of the stopt pipe a cylindrical hole has been made and the characteristic tone obtained. The note is the F above middle C. In pear-shaped whistles at Washington† and New York there is a similar hole bored slightly on one

* *cf.* Boas: Kwakiutl Indians, *p.* 445, Fig. 71.
† *cf.* Niblack: Indians of North-West Coast: Plate lxii, No. 330.

PLATE II.

[To face page 121.

WHISTLES mechanically blown.

8, 8A Oolalla or Mountain Demon calls
8B Double whistle with bellows

WHISTLES with finger-holes.

9, 9A Wooden stopt pipes
9B, 9C, 9D Open pipes of carved slate.

side of the lower end, which terminates in a small knob. Whether these holes were intended to be stopped by the finger in order to vary the note it is hard to say. Specimen No 6 gives the D above middle C with the hole closed. It seems probable that they arose from the natural ingenuity of the Indian whistle-makers, and may have suggested the whistles with true finger-holes described below (p. 122).

Section 3. *Open pipes.*—These do not seem so generally used as would have been supposed. In a collection of some fifty specimens at Victoria (British Columbia) there is no example of the open pipe. The original of specimen No. 7 is in the United States National Museum at Washington. It comes from the Queen Charlotte Islands, and gives the note F sharp above middle C. It is made in the same way as the stopt pipe, but the end block is wholly cut away. In the Berlin Museum there is a bone whistle* about four and a-half inches long with an open end, the other end being plugged with a piece of wood as in our recorders and flageolets; this may have been suggested by contact with Europeans.

Division *b*. *Whistles mechanically blown.*—The sounding of the whistle by means of a compressible bag is undoubtedly of great antiquity, and led up to the more recent use of bellows for the same purpose. I cannot do better than quote the description which Commander Dawson gives of one found by him among the Haida Indians of Queen Charlotte Islands†: "A peculiar and very ingenious speaking doll was obtained at Skidegate. This did not seem to be a mere toy, but was looked upon as a thing of worth, and had previously been used, in all probability, as an impressive mystery. It consisted of a small wooden head three and a-half inches high by two and a-half inches wide and two inches deep from back to front, composed of two pieces of wood hollowed till quite thin, and the front one carved to represent a grotesque face with a large, round, open mouth with projecting lips. The two pieces had then been neatly joined, a narrow slit only remaining within the neck and serving for the passage of air, which then, impinging on a sharp edge at the back of the cavity representing the mouth, makes a hollow whistling sound. To the neck is tied the orifice of a bladder, which is filled with some loose elastic substance, probably coarse grass or bark. On squeezing the bladder sharply in the hand a note is produced, and on relaxing the pressure the air runs back silently, enabling the sound to be made as frequently as desired." The representation of the grotesque face is shown in the Oolalla or Mountain

* *cf.* Boas Kwakiutl Indians, p. 445, Fig. 70.
† *cf.* Report Geological Survey of Canada, 1878 79, p. 140B

Demon's call, of which there are several specimens in the United States Museum. Though much larger than the so-called "speaking doll" obtained by Dawson, it is constructed on the same principle. According to Dr. Boas* these whistles are all carved or painted to represent a corpse either with hollow orbits or closed eyes: some of them are attached to bellows. They are carried under the arms, hidden by the blankets, and thus blown without being seen. In the British Museum there is a fine old specimen, No. 8, included in the Troup collection from the North-West Coast. Here the sound issues from the mouth of the figure instead of from the nostrils, as in the Washington specimen, of which No. 8A is a facsimile. In the forehead between the eyes will be noticed a small hole: this is roughly made, and appears to be either an accidental breakage or cut for the purpose of varying the note. With the hole closed the whistle sounds B flat below tenor C—when open a sharp E flat above tenor C.

Ordinary whistles with bladders attached are in the Washington, New York, and Oxford Museums. They are generally stopt pipes, rarely half-stopt, and never, so far as has been observed, open pipes. *Double* whistles are also found mechanically blown, and in later specimens bellows with the usual side boards are attached. These bellows are without valves, the air being drawn in through the orifice of the whistle as in No. 8B (Crosby Brown collection, Museum of Art, New York).

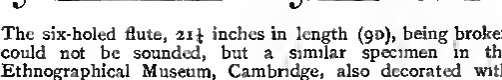
Whistles with finger-holes (Class II.).

We are now I think on much more recent ground, partly because specimens of this class are so seldom seen, and partly because the Indians have no idea of instrumental music as an accompaniment to their songs or as a pleasure in itself. The only whistles I have seen with finger-holes which could be considered genuinely Indian are two examples in the British Museum, received in 1892 from Queen Charlotte Islands. The instruments are similar, both measuring twelve inches in length: the front is almost flat, the back convex, and the slightly tapering body is terminated by a long narrow tube forming the mouthpiece. The lower end is stopped with the usual block, and the instruments, ornamented with incised lines and red painted lips, are bound round with the orthodox spruce root. The less elaborate specimen (No. 9) has one hole bored through the front part about half-way up the tube, while a small hole a little way below it is stopped with a plug of wood. The joints of this whistle were faulty, but by stopping the leak and closing the finger-hole the note D above middle C was obtained; on

* *cf.* Boas. Kwakiutl Indians, p. 653.

raising the finger the octave D was sounded, though rather flat. The more elaborate specimen (No. 9A) has two holes in front and one behind. It also has the plugged hole immediately below the lower hole as in the previous specimen, but covered with the binding. Though also out of repair, I obtained with all the holes closed the note F above middle C, with the lower front hole open B flat, with the two front holes open treble C. The opening of the back hole made no difference, the small hole being placed, as seen in the illustration, opposite the large aperture of the whistle. I failed also to get any notes by "pinching," as on the recorder.

In several museums, as at Edinburgh, Cambridge, and Oxford, and in the British Museum, there are whistle flutes of black polished slate ornamented with totemic designs and carvings. It is known that these instruments are produced by the Skidegate Indians of Queen Charlotte Islands from the rock of Slate Chuck Creek merely by the demand for such things as curiosities by Europeans.* The slate when first quarried is soft and easily worked, but hardens on exposure to the air. In the Pitt-Rivers collection (Oxford) there are three such flutes, two with four finger-holes (9B, 9C) and one (broken) with six arranged in sets of three (9D). The instruments are mounted with hammered metal. The length of the two four-holed flutes is 10½ inches and 11⅛ inches respectively. In each case the bore is slightly inverted conical, as in the old flûte-à-bec, the diameter at the bottom being $\frac{7}{16}$ inch. They yielded the following scales:—



The six-holed flute, 21¼ inches in length (9D), being broken could not be sounded, but a similar specimen in the Ethnographical Museum, Cambridge, also decorated with three carved frogs and an eagle, gave approximately the scale of G major. It is needless to point out that these slate flutes are modelled on European instruments, though the two specimens in the Edinburgh Museum of Science and Art were presented more than forty years ago.

Reed Instruments (Group B) without finger-holes (Class I.).

Division *a*.—Blown by the mouth.

In this group there is yet further scope for that originality of development and adaptation which the Indians have

* *cf.* Dawson Report, 1878-79, p. 149B, and Niblack, U. S. Nat. Museum Report, 1888, p. 329.

already displayed in the remarkable variety of their whistles.

Section I. *Double-beating reeds.*—We commence with the double-beating reeds, not only because this principle appears to have been longer in use than the others, but because the double-beating reed forms the starting point of two of the three other sections of this group.

The Indian double-reed is not formed of natural reed or cane as among the peoples of other continents, but of wood, generally red cedar or spruce. The wood is split in half lengthwise, the lower part of each half is hollowed out, the hollow gradually diminishing in depth and size towards the upper end of the block. The two halves are then bound together with spruce roots, and the upper part is thinned down on either side until a flat tongue-shaped end is left, split in half by the previous cleavage of the wood. The two thin pieces, which stand slightly apart, vibrate and beat upon each other when the air is impelled through them. The outline of the reed varies from the parallel sides and rounded top which we are accustomed to see in the modern clarinet reed to an elongated form with tapering sides and a blunt point, the exact reverse in fact of the ordinary double-beating reed as used for the bassoon. The simplest form of the double reed is the Lipped Form (Sub-section i.), so called because the reed can be controlled by the lips of the performer, as in No. 10. In probably the more ancient specimens the reed is made in one piece with the tube and is inseparable from it. Sometimes however the reed is inserted into a cylindrical or slightly conical tube made in the same way as the whistle tubes and bound with roots or bark, as in the Thngit example (No. 10A). But the Indians have also another form which may be called the *covered* reed (Sub-section ii.). Here the vibrating tongues are placed within the tube out of reach of the lips, sometimes just inside the upper end, more often in the middle or at the lower end. The instrument is then sounded by a strong blast blown by the performer through the tube. When the reed is placed in the middle of the instrument, the outline often resembles that of an hour-glass, the vibrator being inserted at the waist and kept in place with asphaltum or resin, as in No. 11. No. 11A in section shows the position and shape of a covered reed used by the Tsimshian Indians of Fort Simpson, British Columbia. The mention of a covered reed instrument reminds us of the mediæval krumhorn and the present bagpipe chanter reed, but the cover of the reed is not removable. As may be imagined, the tone of the wooden reed is marked by a roughness and power which partake more of the timbre of the metal vibrators of the foghorn than the delicacy of the true orchestral reed.

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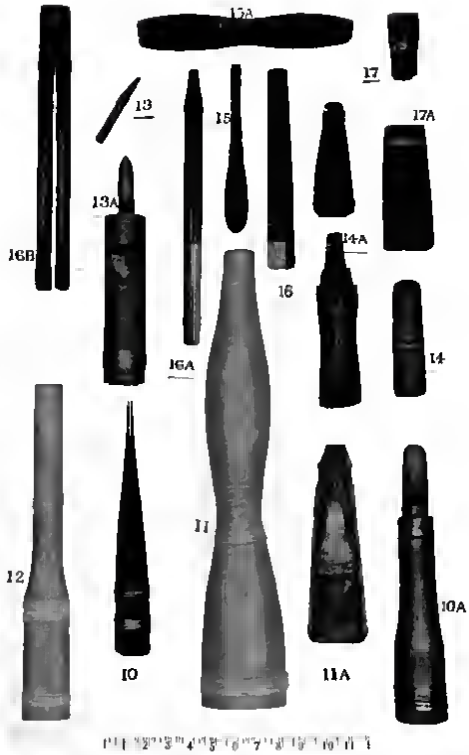
PLATE III.



REED INSTRUMENTS without finger-holes.

Double Reeds 10, 10A. Lipped forms 11, 11A Covered forms 12. Twin form.
Single Reeds 13 Simple form 13A Twin form 14 Double-action form
14A Covered form
Retreating Reeds 15 Terminal form 15A Twin Terminal 16, 16A Lateral
forms 16B Twin Lateral
Ribbon Reeds 17 Simple form 17A Multiple form

The same desire for a concord or discord of sounds which led the Indians to produce the double, triple, quadruple, quintuple, and even sextuple whistles, also suggested the association of two, three, or four double-beating reeds in one air chamber. The reeds are usually small and placed at the lower end, which is flattened for the purpose, while the upper part of the tube is tapered for convenience of blowing as in No. 12, which is a Tsimshian twin reed.*

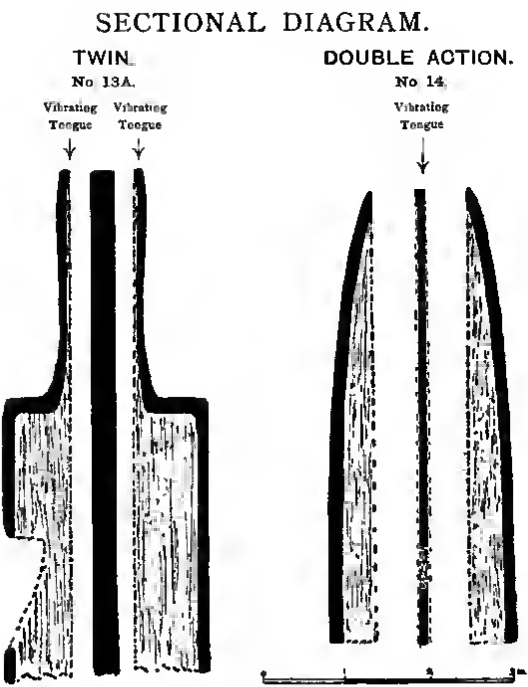
Section 2. *Single-beating reeds.*—The simple form of the single-beating reed is, I am inclined to believe, only a late arrival amongst the Indians of the North-West Coast. It consists of a small hollow bone—an eagle bone—with its end cut down on one side to form a "lay" as in the modern clarinet mouthpiece, and a slip of wood bound on with spruce root or sinew to form the reed which is controlled by the lips (No. 13). Much the same must be said of the covered single reed (14A), specimens of which will also be found in the Metropolitan Museum, New York. Here the "lay," which is pointed and narrow, is formed of wood and made in one piece with a wooden tube constructed in the same way as that of the whistles. The reed is made of metal, cut, I am told, from disused meat-tins, and is wedged in between the two halves of the tube. The vibrator is covered by a removable cap (as in the pibgorn or hornpipe) also made in halves and pierced at the top with a hole for the breath. Now although the Indians have known the use of copper for centuries and have found it easily reduced to thin plates by hammering, the reeds of these instruments are of a metal introduced by Europeans. It may be that an older form exists with both body and reed of wood, but of this primitive form no specimens have as yet appeared.

I say this because in an instrument received from British Columbia, and having every trace of authenticity and age, we find a *wooden twin* single-beating reed of an original and early character, obviously derived from the double-beating reeds already mentioned.

In this specimen (No. 13A) not only is the block split in

* There are two particularly curious and deceptive forms which have come under my notice. In one of them the twin reeds are inserted into the upper end of a wooden tube, and though the tops of the reeds are visible they are beyond the control of the lips. Outwardly their form is very similar to that of the reed instruments described and figured below under Section 3, Nos 16, 16A. There is an old and perfect specimen in the British Museum with the reeds in position but as the little reeds are easily lost, it may be that this form is often overlooked or misjudged. There can be little doubt but that all wooden tubes with *both* ends open should be referred to the present sub-section, the reeds in this case having been lost. The second curious and deceptive form is also shown in the British Museum collection, the outline somewhat resembling the form figured below under Section 3, No. 15A. The mouth-hole is also placed in the middle, but at either end of the tube is a small double-beating reed.

half, hollowed out, and thinned to a flat tongue in the upper part as described in the construction of the double reed, but before the halves are bound together a piece of flat wood

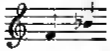


SINGLE-BEATING REEDS.

Showing the peculiar evolution from the Double-Beating Reed

(¼ inch thick) is placed between them, thereby not only making the tubular body into two half-tubes, but providing between the two halves of the reed a solid lay on which each

half vibrates, so converting the vibrators into a twin single-beating reed (*see* sectional diagram). The notes given by this specimen are:—



the pitch of one of the reeds being raised by means of a large ornamental hole cut in the half side of the instrument. In 1858 a double single-beating reed was produced in France by MM. Bornibus and Besson,* but it was a development from the ordinary single reed or a clarinet mouthpiece with a double lay. Here on the other hand we find the single-beating reed derived from the double, an original idea I believe.

Another form of the same principle has also been received from British Columbia (No. 14), and I conclude by experiment that it is a single reed of the "covered" kind. The method of construction is similar to that of the ordinary double reed, except that the upper part, though tapering, is not so thin. Between the two halves a flat piece of wood only $\frac{1}{8}$ inch in thickness is inserted before they are bound together. Now had the upper part been thinned sufficiently we should have had a form similar to that just described; but it is in this case left rigid, and the flat inserted piece is rendered pliant and flexible by cutting away, so that it becomes the vibrator and, when the breath is forced into the instrument, oscillates between the two halves, beating on each alternately, thus forming a "double-action" single reed uncontrolled by lip pressure (*see* sectional diagram). I am not aware that this principle is recognised or known elsewhere.

Section 3. *Retreating reeds.*—The vibrating principle in this section has apparently been derived at least in one form from the double reeds, and seems best described by the term "retreating" reed, a name also applied by Mr. Hope Jones to certain forms of organ reeds or diaphones invented by him. Professor Mason, of the United States Museum, calls it the "inverted double reed." It is the reverse, so to speak, of the ordinary beating reed, in which the normal position of the vibrator is at a little distance from the lay or the other half of the reed, so that when the breath is forced through the reed the aperture is alternately closed and opened. The retreating reed, however, is in its normal condition *closed*, the two halves being in contact. When the air is forced through the reed (from the opposite end to that used in the ordinary beating reed) the halves open and close alternately. The primary action of the ordinary reed is "beating" or "closing," the primary action of the closed reed is "retreating"

* *cf* Day, Catalogue of Military Exhibition, 1890, p. 70.

or "opening." This principle assumes two general forms, terminal and lateral.

In the *terminal retreating reed* (No. 15) the affinity with the ordinary double-beating reed is very evident. I am indebted to Mr. E. H. Hawley for the following description of the original of this specimen from the Bella Bella (Salishan) Indians: "It is a bit of cedar shaped like an elongated Indian club flattened at the thick end. The wood has been split and the large part or outer ends excavated to form two spoon-shaped sections. The smaller or inner ends have only a little channel cut in them for an air passage: the two halves are then lashed together with split spruce root at the inner end and at the point where the widening out begins; the outer ends are left free. Where the breath is forced in at the mouthpiece it causes the free ends both to open and close, producing a harsh sound."

In the Washington Museum there are also examples of this form from the Skidegate Indians of Queen Charlotte Islands. In the Pitt-Rivers Museum (Oxford) there is a very perfect Thingit specimen, about ten inches long, from the Stickeen River, the outside of the vibrating portion in this example being broadly octagonal instead of oval. Passing to other continents, an example of this terminal retreating reed appears from Fez, in Morocco, where it is called "lira." It is a piece of reed, one end being open, the other closed by the natural knot. This however has been split longitudinally, and by blowing into the open end the two halves vibrate as the reeds before mentioned. In my own Essex parish the boys construct a similar terminal reed out of the hollow stem of the meadow rush, one end, closed by the natural knot, being split as in the African specimen.

I have applied this form of reed to modern wind instruments, such as the oboe, clarinet, and ophicleide, but failed to produce a musical note. The fact that the reed is out of the control of the lips is not in its favour. As with the other reeds, so with this, the Indians have endeavoured to produce an accord, and in No. 15A we have the twin terminal retreating reed as constructed by the Skidegate Indians. The mouthpiece or blowhole is in the middle or waist, and as the hole is cut right through, it is necessary to close the opposite opening with the finger; then when the air is forced in, the two ends "retreat" and form the twin vibrators.*

* Niblack (Report, 1888, p. 332) unfortunately describes this interesting instrument as "a whistle pure and simple, being blown by applying the lips as in a fife." It was to this form I alluded when, in speaking of the double-beating reeds, mention was made of a peculiar specimen in the British Museum, shaped and blown as a retreating reed, but having a small double beating reed inserted at each of the ends which are rigid.

The *lateral retreating reed* is either an attempted improvement on the terminal form or has come from the simple tube which is made up, as before mentioned, of two excavated halves bound together. If the lower end of one of these tubes be stopped and the air forced into the open end, the two sides if not too thick will fly apart at the split and produce the lateral retreating reed. In No. 16, which represents the form used by the Skidegates, and No. 16A, that used by the Massets, both of Queen Charlotte Islands, the walls are very thin and vibrate for the greater part of their length. By pressing the body of the instrument between the forefinger and thumb the vibrating length can be shortened and a note of higher pitch obtained.*

The lateral retreating reed is probably more widely distributed than the terminal form Mr. Balfour, of the Pitt-Rivers Museum, has drawn my attention to a very similar sound-producer made by the boys in Oxfordshire, and most likely in many other parts of England. The pliant hollow stem of a river reed is cut off just below the knot and again a few inches above to form an open end. An incision is then made with a knife in the side of the tube, and when the breath is blown into the open end the edges of the incision vibrate as in the lateral reed.†

The Ainos of Japan also have a similar vibrator in their "ippaki-ni" or "deer call," which consists of a piece of skin stretched across a flat piece of wood and fastened to it on three sides by sinew. A hole is bored in the wood through a short mouthpiece on one side, and opens out beneath the skin. When the air is forced through the hole the skin rises and falls, or "retreats" and "beats" at its free edge on the flat surface.

As with the terminal reed, so with this, the Indians have constructed twin vibrators as shown in No 16B, which is a form used by the Massets, and is made out of one block of wood split in half, hollowed out and bound together again.

Section 4. *The ribbon reed.*—This principle is well known from its use in toy instruments and the nasal tones of

* It is necessary for this principle that the lower end of the tube should be closed, and for this purpose the wood is not cut away at the end, but left as a block Similar tubes with open ends have either been originally intended for the ordinary double beating reed as noticed on p 125 note, or must be closed with the hand, which then serves the same purpose as the end block.

† I have since heard that this form is used in Warwickshire. In North-West Essex the popular "squeaker" is the double reed, the hollow stem of the rush being slit down about 1½ inches through the knot, the two halves drawn slightly apart, and the reed thus formed covered with the mouth. In my own county (Dorset) the shepherd boys construct the single vibrating reed from an oaten straw, a thin tongue being cut out of the straw towards the knot.

Mr. Punch. A strip of thin membrane—in the case of Indian specimens an inner layer of bark from the red cedar—is tightly fixed at each end and stretched across a narrow air passage. On blowing through the air passage the edge of the thin membrane vibrates in the same way as children will extract a noise from a blade of grass or lime leaf held between the middle and lower joints of the thumbs. The specimen, No. 17, is from the North-West Coast, and an example in the Metropolitan Museum, New York, has its sides carefully squared and perforated with small holes below the vibrator.

In the United States Museum at Washington an elaborate Tsimshian form occurs, oddly enough described in the report as a trumpet.* It is made in six pieces, and when they are bound together they form five narrow air-passages. A continuous piece of thin fabric is stretched across each passage, the whole instrument thus containing five vibrators. Unfortunately the musical effect is not equal to the ability and ingenuity of construction (No. 17A).

Division *b*. *Reed instruments mechanically blown.*—The sounding of the reed instruments by mechanical means naturally followed the application of the same idea to the whistles. I say it followed, because owing to the strong nature of the wooden reed, the ordinary compressible bladder filled with grass as previously described would fail to give the necessary wind pressure. Therefore examples of mechanically blown reeds are rare, the only specimen observed being of the double-beating form fitted with bellows similar to those of Fig. 8B, and not of a very primitive construction, though painted with totemic designs Indian fashion †. It is from Skidegate, Queen Charlotte Islands, and is in the United States National Museum.

Reed Instruments with finger-holes (Class II.).

Here again we deal only with the double-beating reed, and all specimens of this class must I fear be considered of later origin than the primitive examples without finger-holes, unless we consider them as survivals of a higher civilization now lost. Examples are certainly rare.

There are in the British Museum two wooden reed instruments (Nos. 18 and 18A) made of split cedar wood and bound in the usual way, collected by Troup, and received by the Museum in 1892 from the North-West Coast. The length of the body is 20⅛ inches and 22 inches respectively, and the section is in both cases oval (1⅞ by 1½ inches), the sides being parallel except just at the upper end. The lower end is

* *cf.* Niblack Report, 1888, p. 332, Plates lvii. and lxi.
† *cf.* Niblack Report, 1888 Plate lxii.

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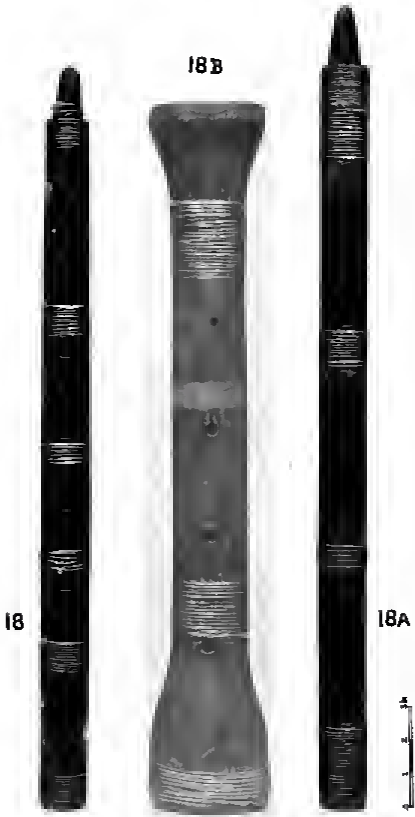
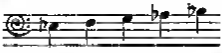
PLATE IV



REED INSTRUMENTS with finger-holes.
18, 18A Lipped Reeds
18B Covered Reed

closed, the wood not being cut away. Into the other end is inserted a wooden double-beating reed. There are five holes or rather oblong openings in the body of the instruments placed at more or less regular intervals.* I had great difficulty in sounding the more perfect of these two instruments (No. 18) owing to the dryness of the reed and the leakage at the sides, but at last the following scale was extracted—



By closing all the holes no sound of course is produced owing to the end block—a peculiarity observable also in the chanter of the Northumbrian bagpipe.

In the same collection there is a curious wooden tube 21½ inches in length, with enlarged bell ends somewhat similar to that of a trumpet (No. 18B). The body is pierced with four round finger-holes at regular intervals. The instrument is constructed and bound in true Indian fashion, and comes from Queen Charlotte Islands. The bore is slightly oval (1¼ by 1 inch) and the internal diameter of the upper end is 3 by 2¼ inches. Though it looks as if it might be blown as a true trumpet, I found it impossible to produce any sound owing to the enormous size of the mouthpiece, and it seems almost certain that it was sounded by means of a double reed inserted at the narrowing of the tube, where some slight traces of fixing resin still remain. The instrument would therefore be of the covered reed type, and the four holes, which are each 3¼ inches apart, would be stopped with the fingers of both hands.†

The four finger-holes seem to show that this specimen is genuinely Indian, as this number of holes is characteristic of the more primitive wind instruments of the American Continent.

The use of these Instruments.

In the Special Exhibition of Musical Instruments at South Kensington, 1872, a small whistle from the North-West Coast with a bladder attached was shown by Colonel Lane Fox (afterwards Pitt-Rivers), with the following description—"A species of small bagpipe. Carried under the arm and pressed to imitate the noise of a duck when decoying them."‡ This specimen is now in the Oxford Museum and is similar to

* Very similar oblong or quadrangular holes appear on a whistle flute from the Lengui tribe of North Chili, South America (Pitt-Rivers Museum).

† At Washington there is a covered double reed without finger-holes, but with the lower end shaped into a bell very similar to that of the trumpet. (*cf.* Niblack Report, 1888, Plate lxii, Fig. 332.)

‡ *cf.* Catalogue of Special Exhibition, 1872, No. 516.

those described under "Class I., Division *b*.—Whistles mechanically blown." On what authority this explanation of its use was made is not known: it is certain however that somewhat similar "calls" are used as decoys as they are by our own fowlers. But these instruments whether whistle or reed are more particularly associated with the ceremonial observances of the Indian tribes.

Dr. F. Boas in his report on the Secret Societies of the Kwakiutl Indians makes frequent mention of the whistles: but as he does not distinguish between whistles and reeds, and includes them all under the first name, we are left to such illustrations as are given to determine the particular forms used.

The principal secret society is that of Hâmats'a, with its elements of cannibalism, and the instruments used by the Hâmats'a are true whistles, and comprehend all the multiple forms previously described. These whistles are blown when the frenzied Hâmats'a is returning from his sojourn in the forest, and are supposed to represent the voices of the spirits with which he is possessed. The commencement of what is termed the "winter ceremonial" is announced by small dance whistles called ts'etsaeqa. All these instruments are deemed sacred and must not be seen by the profane or uninitiated. They are supposed to possess a magic power, which can be thrown over the listeners.* In the dances connected with these ceremonies and in "cultus" dances—a form of popular amusement—the performers wear grotesque masks representing birds and beasts. Underneath the masks is hidden some form of instrument which will imitate the noise of the creature represented.† In the Raven mask of the Lao'laxa dance, for instance, the "croak" is produced by the twin single-beating reed described above, concealed within the long beak of the bird-shaped head-dress.‡

In the Qo'los or eagle dance § a lipped double-beating reed is employed.

* *cf.* Boas: Kwakiutl Indians, p. 584.

† *cf.* Boas: Kwakiutl Indians, p. 629.

‡ *cf.* Dawson Report, 1878-79, p. 139B. Dawson describes a small apparatus which is held in the mouth to produce a peculiar noise when dancing—the strange and startling sound being supposed to indicate a species of possession in an excited dancer. "One," he says, "which I obtained consisted of a wooden tube roughly oval in section, ⅜ inch in greatest width, with a length of 1¾ inches. This is composed of two pieces tied together with a strip of bark and within it are placed the vibrating pieces, each composed of two flat pieces of wood or reed tied together. In a box in one of the old houses in Parry Passage several such cells were found fitted in trumpet shaped tubes about a foot in length made of cedar wood, each being composed of two pieces." I presume that Dr. Boas alludes to similar instruments under the name "trumpet whistles." (*cf.* Boas: Kwakiutl Indians, p. 512. Compare also Lao laxa horn, p. 430.)

§ *cf.* Boas: Kwakiutl Indians.

Another dancer called Tsé'k'ois is supposed to have many birds within him, the voices of which are heard constantly. For this purpose he has small whistles hidden in his mouth which, according to Boas,* he exchanges from time to time, and thus produces various sounds.

In another dance witnessed by this learned and interesting writer a number of people came in spreading their blankets and imitating the motions and noises of ducks—an excellent opening for "quacks." In a description given by J. G. Swan† we read: "The performers commenced by hooting like owls, howling like wolves, and uttering a sharp whistling sound intended to represent the blowing and whistling of the wind." This latter noise was probably produced by the ribbon reed.

I have already alluded to the so-called "speaking doll" and to the Oolalla. According to Niblack‡ the Oolalla whistle is "used only at the commencement of great and important ceremonies to announce the beginning of the distribution of property in the potlatch."

These whistles and musical effects are considered mysterious properties which are passed on from one chief to his successor with great secrecy, each society possessing its peculiar "call." Dawson§ is probably correct when he says that they are no doubt among the devices for obtaining and holding authority over the credulous vulgar. At any rate they are not used by the ordinary members of the tribe, who accompany their dances and songs only with their drums, rattles, wooden tappers, and clackers, as well as with the general clapping of hands.‖

Of the use of the instruments with finger-holes we have no account, except that the slate flutes are made for sale as curiosities of workmanship.

The Source from which derived.

When these whistles and reed instruments of the North-West Coast are compared with those of other existing North American tribes their superiority is at once apparent. Amongst some tribes the simple vertical tube blown on the upper edge, as in the Arabian "nei" or the Japanese "shakuhachi," is still used. Amongst others, the popular whistle is a small bone

* *cf.* Boas: Kwakiutl Indians, pp. 493 and 511.

† *cf.* Swan: Indians of Cape Flattery, p. 66.

‡ *cf.* Niblack Report, 1888, Plate lxii.

§ Dawson Report, 1208. *cf.* Boas: Kwakiutl Indians, p. 541.

‖ The employment of these whistles and reeds as an accompaniment to vocal music is unknown to the Indians. The popular and secret songs of the North-West Coast have been reported on by G. Dixon ("Voyage round the World," London, 1789); F. Poole ("Queen Charlotte Islands," London, 1872); and especially by Dr. F. Boas in his account of the Kwakiutl Indians (Washington, 1897).

with a notch or vent-hole cut in one side and the end plugged with asphaltum or gum, except where a narrow wind-way is left to direct the air upon the lower edge of the hole. Even in the "chotonka" or "courting flute" of the Kiowa, Dakota, and other Indians, with its six finger-holes and evidently European improvements, the whistle is far more rudimentary than in the specimens from the North-West Coast; while as regards reed instruments, I am not aware that any like those described are in use, unless recently introduced from other continents.

We can hardly suppose, however, that, clever and ingenious as the North-West Coast Indians are, the principles of sound-production used by them are wholly original.

I am strongly of Professor Mason's opinion, expressed in the Smithsonian Report, 1886, that "it is an important principle which archæologists sometimes overlook, that arts may survive and obey the laws of technical evolution, even though the men through whose instrumentality they live and have their being have no immediate blood relationship." If then we can find a people using the constructive peculiarities here described, without necessarily asserting a blood relationship, we may suppose that communication of some sort must have at one time existed between them.

The question therefore is not only what peoples are likely to have come in contact with these Indians, but also how far are the sound-producing principles common to both. I do not propose to enter into the history of the discovery by Europeans of the North-West Coast*—for traces of European influence, chiefly French and British, on the musical instruments during the past 120 years have been already alluded to, and in the case for instance of the simple single-beating reed is fairly evident.

At the close however of the eighteenth century there was a constant trade between this coast and China, and it has been suggested that the advanced skill and technical power of these Indians is due to some such—perhaps still earlier—communication with the Asiatic Continent. But this is not borne out by the musical instruments at any rate; for the employment of the whistle was unknown to the Eastern Asiatics until a comparatively recent period, their flutes being blown either vertically on the upper edge or transversely. Again, the special form of vibrator peculiar to these Eastern people—the free reed—is entirely absent, though it would have been quite easy to construct the reed of wood as is done by the Malays. I do not think that the trade with China or the arrival of any Japanese voyagers can have given to these Indians such musical principles as they have.

* *cf.* Dawson Report, 1878-1879, 88 *seq.*

Were it on the other hand Russian influence coming from the north, I do not imagine we should find the tribes most exposed to that influence (in what was once known as Russian America, now part of Alaska) contenting themselves with the drum and a rude rattle of claws and beaks, and altogether ignorant of these instruments.

It appears to me that we must look to Central America—Mexico and the home of the Aztecs—for the main source of inspiration. The whistle head was exceedingly well known to this highly civilized nation. The ruins of their temples and sepulchres have produced large numbers of specimens—some simple whistles, others double, others with finger-holes. But how did communication between the two peoples take place? It may be, as Professor Mason has kindly suggested to me, that the Aztec tribes came in contact with the North-West Coast tribes *overland:* for the Shoshoni Indians—an Aztec tribe—pushed as far north as the 49th parallel, practically touching the Coast Indians at their southern limit. Or the knowledge of the whistle head may have reached them *by sea*—by coasting canoes,* or through the traffic which we know was maintained, after the fall of the Aztec power, all along the North-West Coast by the Spaniards.

Had the Spaniards however introduced it through European channels alone, and not as the conquerors of Mexico, we should I believe have found a more general use not only of instruments with finger-holes, but of instruments with *six* finger-holes instead of the four or fewer holes characteristic of the primitive Indian flutes and Aztec whistles. From the same source came probably the double-beating reed, though owing to the perishable nature of the wooden vibrators (for they could not be constructed of pottery or stone like the whistles) we have no Aztec specimens extant. The shape of the reed tapering to a point instead of widening out from a narrow base is distinctly peculiar and unlike the European and Asiatic reeds.†

* The Tsimshians, who are coast dwellers settled at the mouth of the great Skeena River, are known to have communicated to the Haida Indians of Queen Charlotte Islands the knowledge of the mystic rites with which the whistles are associated.

† It is interesting to note in connection with the description given above of the hour-glass form of instrument containing a concealed beating reed that in the mounds of Tennessee, Georgia, and the neighbouring States certain stone tubes of hour-glass form have been found and are generally supposed to be trumpets. Owing however to the large diameter of the upper end it is difficult, perhaps impossible, to sound them by the vibration of the lips, though the sound has been described by writers as terrific. And such would be the case if a wooden reed were inserted at the waist as in the common form of concealed reed found amongst the North West Coast tribes. *cf.* Wilson Prehistoric Art, p 581.

Amongst the ruins in Mexico have been found specimens of the "Chayna"; if this was identical with the "Jaina" of some existing Indian tribes in Peru it was played with a double beating reed. The Aztec "Acocoti" was also played with a reed. *cf.* Engel History of Musical Instruments, p 73.

In the religious ceremonies of the Aztecs, which were human sacrifices, music too played an important part, and a flute (so called) was broken by the chosen victim before he met his death.

Linguistic* and other affinities also tend to confirm this theory that at some time and in some way a contact was formed between these coast dwellers and the tribes whose civilization was centred in Mexico.

Whether the Aztecs or their predecessors the Toltecs originated the whistle head we cannot say, or whether they brought it direct from some ancient Siberian home. Perhaps, after all, the myth of the white man who came across the Atlantic in a boat and taught them the arts and gave them the brighter and better side of their religion† may have been a fact, and that Europeans had visited the land of Anahuac before Cortes and his destroying horde closed the history of a highly cultured nation, and so successfully—alas, so unfortunately!—obliterated their past.

Though to ethnologists these few suggestions are probably valueless, my object will have been attained if I have awakened an interest in our fellow-subjects in British Columbia, and classified, in a way more worthy of the ingenuity and originality displayed, the whistles and reed instruments of the American Indians of the North-West Coast.

DISCUSSION.

THE CHAIRMAN.—We are enormously beholden to Mr. Galpin for this most entertaining and enlightening lecture, and I think the first thing we have to do is to express our gratitude. It is quite an honour to the Association to have a lecture of this sort, so full of matter, so complete, and so well put in every possible way. (Vote of thanks accorded unanimously.) I do not suppose many opportunities will offer themselves for employing such instruments as we have heard to-day in modern orchestras. The only opportunity I can think of is in Wagner's "Siegfried," when the hero is outside the *Dragon's* cave. If he used the instrument we heard described as the "Raven" instead of his little reed pipe it would doubtless wake the *Dragon* up more speedily. Such experiments have been made, as for instance in a

* In the Koluschan (Thingit) family remote analogies to the Mexican tongue are in several of the northern tribes more marked than in any other (Galiatin).

† In this golden age, we are told, the air was filled with the sweet melody of birds. Were these the newly-formed whistles? Native song-birds are rare

recent performance of Saint-Saëns's "Danse Macabre," in which a Burmese Xylophon was successfully introduced.

Mr. SOUTHGATE.—I may mention with regard to the curious drawing of the instrument with the two mouthpieces that there is a specimen in the museum at Canterbury somewhat like this. I remember seeing it some years ago, and was struck with it. The Chairman of the Museum Committee gave permission, and so I got the instrument out and made a drawing of it. As far as I remember it was like this. There was a great deal of ornamentation on it. They told me it had been given to them some eighty years ago by Mr. Lushington. I looked down the tube, and I think our lecturer's suggestion is right. There was evidently a place where the reed had been inserted. In design it resembled the methods used in the chanter of the Scotch bagpipe, and also the plan of the ancient pibcorn, where the reed is placed in a box, and is not under the control of the player's lips.

Mr. WELCH.—I should like to ask Mr. Galpin if he found any nose flutes among those tribes, for if they had derived their musical instruments from the islands of the Pacific Ocean no doubt there would be such.

Mr. GALPIN.—I have failed to find any trace of either the nose flute, or the primitive vertical flute, or the transverse flute. I should add however that there is a theory held by some, and derived from a similarity of carving and other arts, that these tribes are connected with the Maori of New Zealand; and though I do not go so far as to say that we can decide the question of relationship or no relationship by musical instruments, yet it is instructive to observe that the principles embodied in the Maori *putorino* or (so-called) "nose flute" and the *pumoana* or conch trumpet are quite unknown to the Northern Indians.

Dr. MACLEAN.—I should very much like to ask the lecturer if the North American Indians are unique in having these polyphonic instruments.

Mr. GALPIN.—We find polyphonic instruments in China and the other parts of Eastern Asia, and in the Malay Archipelago, but they are of the free-reed type, a form of sound-producer not used by the Indians. Perhaps also the Chinese pigeon whistles may be considered polyphonic, but they show the primitive construction of the vertical flute. Polyphonic instruments of the true whistle form were known to the Aztecs and ancient Peruvians. In Africa we should not expect to find them, as wind instruments are very undeveloped except on the Mediterranean seaboard, where Arabian and European influences predominate. Polyphonic instruments have been known in Europe at any rate since the invention of the water organ in the third century B.C.

The Chairman.—I should be glad to know if there is any connection between the music of the Aztecs and the Zuni Indians and the music of these North-West Coast tribes, as it is an interesting point whether the latter show an independent musical organisation, or whether either group shows kinship with the others; and whether the tradition moved from South to North or *vice versâ*. I hope Mr. Galpin may from the stores of his lore afford us another lecture as delightful as this.

Mr. Galpin.—As we have not considered the vocal music of the North-West Coast Indians to-day, it is impossible to enter upon a just comparison between them and other tribes, such as the Iroquois of the North, or the Zuni of the South, with their interesting ritual music and dances. But as regards the knowledge of the principles of sound production the other Indians are far behind those of the North-West Coast. The instruments they have either remain in a very primitive condition or are evidently due to the contact with Europeans—in the Southern States more particularly with the Spanish civilization. In connection with the remarkable development found on the seaboard of British Columbia, may I call particular attention to the derivation of the single reed from the double. By placing a slip of wood between the vibrating plates of the double reed, a twin reed of the single-beating type is at once formed. I should be very pleased if any of the audience would like to try these instruments after the meeting.

Sir Frederick Bridge.—I think the double tube anticipates the effect of the *voix celeste*. You see there is the same effect that they have in the French organs in the *cor de nuit* stop: they have two pipes, one tuned a little sharper than the other.

Mr. Southgate.—The same thing prevails in the French harmoniums—the oboe is tuned a little sharper than the *cor anglais*.

April 21, 1903.

A. H. D. PRENDERGAST, Esq.,

In the Chair.

SOME NOTES ON MUSICAL LIBRARIES, AND ON THAT OF THE WRITER IN PARTICULAR.

By James E. Matthew.

To a Society "formed for the investigation and discussion of subjects connected with the Art, Science, and History of Music," the subject of musical libraries cannot fail to be of interest, as neither of these branches of the study can be followed without an adequate knowledge of the work of previous investigators. The development of the art of musical notation, the rise of the art of music printing from its rude early attempts to its present perfection, the history of the gradual development of harmony, must be of interest to every intelligent musician, and even the executant cannot fail to be interested in the life and surroundings of the composer whose works he is interpreting, and his relation to the composers who have preceded and followed him. For such studies the resources of a well-furnished library are indispensable.

I propose in the first instance to say a few words on some of the most important of the musical libraries. Anything approaching an exhaustive catalogue is of course out of the question, but I may refer my hearers to much valuable information on the subject in Grove's Dictionary and its supplement.

The earliest libraries were undoubtedly collected by the various ecclesiastical foundations, and consisted exclusively of service books for use in Divine worship. Many of these have been dispersed by the various vicissitudes which beset such institutions, in some cases it is to be feared owing to the supineness of their custodians; but there are few of our own Cathedrals which do not still retain some of their ancient treasures, and in some of the Continental churches

magnificent service books are still to be found in use—manuscripts on so large a scale that the whole choir is able to gather round a lectern and sing from a single copy, which is generally adorned with magnificent illuminations. All Continental travellers must be familiar with those noble volumes, of which the finest that have come under my notice are those at the Escorial—masterpieces of artistic penmanship, and forming volumes of such a size that castors have been adapted to the lower edge of the boards for convenience in running them in and out of the various presses in which they are stored.

Of most of these foreign libraries no catalogue exists, or at least is available. But of one of the most important—that of the Vatican—an excellent catalogue, both descriptive and thematic, has been drawn up by Fr. X. Haberl, to whom the lovers of music *à capella* are under much obligation. As might be expected it is a rich collection of the golden period of church music, comprising among others many of the works of Josquin des Près, Festa, Orlando di Lassus, Morales, Palestrina, Suriano, Vittoria, and Willaert. It would be of great interest if our own Cathedral organists could be persuaded to make catalogues of the treasures in their keeping, of the very existence of which I am afraid they are in many cases ignorant. So far as I know, the only printed catalogue issued by any English Cathedral body is that of the manuscripts at Ely, which was edited by Rev. W. E. Dickson, the precentor, in 1861.

All these libraries consisted of sacred music. We have now to speak of one of the earliest general music libraries of which any record exists—that founded by John IV., King of Portugal. The library itself has entirely disappeared; it is generally believed that it was swallowed up in the great earthquake at Lisbon in 1755. Fortunately the first volume of the catalogue was printed, and a copy was found in the National Library at Paris. This has been admirably reprinted by Joaquim de Vasconcellos, the well-known historian of Portuguese music, a copy of which I have in my hand. John was born in 1604, and came to the throne in 1640, dying in 1656. The catalogue is dated 1649, and it was the king's intention that the work should have been continued, but unfortunately this design was never carried out. In addition to reprinting the catalogue, Vasconcellos published an essay upon it, and also wrote the article on John IV. in the supplement to Fétis's Dictionary. The library was on a most extensive scale. The catalogue comprises 951 numbers, but each number consists of many collections of works. All forms of composition common in those days are represented, and by the publications of composers in various languages—Latin,

Flemish, German, English, French, and Dutch. The king must have been well served by his agents, as his collection of English madrigals was most extensive. The total number of English collections catalogued by Rimbault is ninety-four, and this probably approaches completeness. Of these fifty-four were included, with several other works not mentioned by Rimbault, to the number of seventy-one in all. It is much to be regretted that the second volume was not printed, for as the king had distinguished himself in musical controversy, and was well instructed in theory, there can be no doubt that it would have contained an excellent collection of works on the subject. It is known that he possessed an autograph MS. of the "Micrologus" of Guido d'Arezzo, presented to him by Queen Christina of Sweden.

The next library which I have to mention is one that is a little taxing to one's credulity—I speak of that collected by the famous Padre Martini. Our knowledge of it is mainly derived from Dr. Burney's account of his visit to Bologna in his "Present State of Music" in France and Italy. The description is as follows:—"Besides his immense collection of printed books, which cost him upwards of a thousand zechins, P. Martini is in possession of what no money can purchase, MSS., and copies of MSS. in the Vatican and Ambrosian libraries, and in those of Florence, Pisa, and other places, for which he has had a faculty granted him by the Pope, and particular permission from others in power. He has ten different copies of the famous "Micrologus" of Guido Aretinus, and as many made from different manuscripts of John de Muris, with several other very ancient and valuable MSS. He has one room full of them; two other rooms are appropriated to the reception of printed books, of which he has all the several editions extant, and a fourth to practical music" (may I point out that this is probably the first use of this convenient term in our language), "of which he has likewise a prodigious quantity in MS. The number of his books amounts to seventeen thousand volumes, and he is still increasing it from all parts of the world. He showed me several of his most curious books and MSS., upon which I communicated to him the catalogue of mine. He was surprised at some of them, and said they were extremely rare; of these he took down the titles." In a note Burney says that "he often paid a great price, ... particularly for one written in Spanish, 1613, which cost him a hundred ducats, about twenty guineas, at Naples, where it was printed." This of course was Cerone.

Seventeen thousand volumes is an enormous collection, and one cannot help thinking that Burney must have misunderstood the Padre, who, from what we know of his character, would not wilfully exaggerate; but it is difficult

to believe that in those days any such collection was possible. May it not have been the number of separate compositions, including of course the theoretical works? It will be asked what traces are now existing of this library. It is stated that a portion found its way to the Court Library at Vienna; part remained in the Minorite Convent, of which he was a member; and on the suppression of religious houses consequent on Napoleon's creation of the kingdom of Italy, what was left was transferred to the Liceo Musicale of Bologna. This Institution now possesses an extensive musical library, with the further distinction that it has published an excellent catalogue, originally compiled by Gaspari, but edited and published by F. Parisini, at the expense of the Municipio, whose liberality in the matter is worthy of all praise. It is handsomely printed in three large octavo volumes, containing severally theoretical and historical works, sacred music, and profane music. Modern publications have not been entirely neglected. It is a little difficult to estimate the actual contents, as in the theoretical volume the works are arranged under subjects, and consequently a work sometimes finds itself catalogued under more than one heading, but the collection comprises all departments of musical literature, and contains many rarities, both printed and manuscript. There are six printed works of Gafurius, including the rare quarto of 1480, eight of P. Aron, two of Spataro, the "Harmonie Universelle," of Mersenne, four works of Galilei, the "Melopeo," of Cerone, no doubt the copy of which Burney speaks, and a considerable collection of manuscript matter left by Martini. The "Syntagma" of Prætorius is unfortunately imperfect. Among the practical music should be noticed large collections both of Palestrina and O. di Lassus, printed and manuscript, but of the latter neither the "Patrocinium Musices" nor the "Magnum Opus Musicum" are represented. There are many works both of Morales and Vittoria, and in secular music the two editions of Peri's "Euridice," as well as Caccini's setting of the same libretto, and four editions of "Le nuove Musiche" of the latter composer. The collection of madrigals is very extensive, filling no less than 177 pages of the catalogue, but among them the works of our English composers are entirely unrepresented. It will be seen therefore that the library is one of very great interest.

The Paris Conservatoire possesses an excellent library, no complete catalogue of which, however, is available. Fétis held the position of librarian from 1827 to 1831, but his period of office seems to have left no trace in the history of its acquisitions. It is probably another instance of the danger of any curator being a collector on his own account. He was succeeded by another well-known musicologist,

Bottée de Toulmon, whose zeal was only bounded by the limited amount of the subvention at his disposal. At his death in 1850, he was succeeded by Berlioz, who seems to have looked on the appointment as a sinecure, as did Félicien David, who was appointed in 1869. From 1850 to 1871 the library was really under the charge of M. Leroy, the sub-librarian, and in 1872 M. Weckerlin, the well-known musician and writer, was appointed "Bibliothécaire." He has signalized his period of office by the publication of an excellent catalogue, with illustrative notes on the principal works of the "Réserve," *i.e.*, the rarer books of the collection, both theoretical and practical. It is preceded by an account of the gradual growth of the collection, giving particulars of the important acquisitions, but unfortunately no figures enabling one to form any judgment as to the actual number of volumes contained in it. The notes are very pleasantly written and are of great interest. Among the rarer books may be mentioned five works of Martin Agricola, the "Orchesographie" of Thoinot Arbeau, Langres, 1596; Bonaventura, "Regola de musica plana," Venice, 1513; Caroso's "Il Ballarino," Venice, 1581, and a later work by the same; Cerone's "El Melopeo," Naples, 1613; all the works of Doni, the "Musica theorica" of Folianus, Venice, 1529; four works by Gafurius, including the rare quarto of 1480, the "Isagoge" and "Dodecachordon" of Glareanus; the "Flores Musice" of Hugo von Reutlingen, Strasburg, 1488; Luscinius' "Musurgia," Strasburg, 1556. One is glad to find Mace's "Musick's Monument," as well as Morley's "Plaine and Easie"—the second edition, however, 1608, six works by Mersenne, including the "Harmonie Universelle," the very rare "Micrologus of Ornitoparchus," Cologne, 1533; the complete "Syntagma" of M. Prætorius; the "Bellum musicale" of Claude Sebastien, Strasburg, 1563, and many others. The collection of practical music is scarcely less interesting. It contains the "Balet comique da la Royne," Paris, 1582; Blow's "Amphion," a beautiful facsimile of the portrait of which is contained in the catalogue—not a rare book, but one which it is pleasant to find there; "Le Nuove Musiche," and another work of Caccini; Grabu's "Albion and Albanius," London, 1687; Lassus' "Magnum Opus Musicum"; Lawes' Psalms, London, 1698; the "Odhecaton" of Petrucci, a complete copy, of which the librarian is naturally proud; the "Cantiones Sacræ" of Heinrich Schütz, Freiberg, 1625, and many sets of madrigals and other works too long to enumerate. A good collection of the works of "le grand" Couperin, two works of Frescobaldi, the "Componimenti" of Muffat, the second edition of Simpson's "Chelys," London, 1667, are some of the representative works in the instrumental department.

The city of Paris is also fortunate in the possession of another library of great value,—that of the Opéra—which is rendered still more interesting by the fact that an excellent catalogue of it, complete up to the date of issue, has been made by the librarian, M. Lajarte, a model of what such a work should be. The collection contains full scores, and in most cases—from the time of Gluck downwards—the necessary vocal and orchestral parts for performance. The collection carries us back to the very commencement of operatic representation in France by the possession of fragments of Cambert's "Pomone" and "Les peines et les plaisirs d'amour." Both these are manuscript copies of the incomplete printed scores, of which the only known copies are in the library of the Rue de Richelieu. In the collection are numerous autographs. M. Lajarte has added to the value of the catalogue by giving a list of the original performers in each work, with other details of interest, such as the airs which were most important. Altogether the catalogue forms an excellent basis for a history of the opera in Paris.

The musical collections formed during the last two centuries by the successive Grand Dukes of Mecklenburg-Schwerin are very extensive. The library consists exclusively of music in all departments of composition, and an admirable thematic catalogue in two volumes, under the names of authors, has been made by Professor Otto Kade. It is a very interesting collection.

We are indebted to Herr Emil Bohn for a catalogue of the printed musical works contained in several of the public institutions of Breslau. It contains a few works of musical literature, among the rarest of which are the "Flores Musicæ" of Hugo von Reutlingen, the "Lilium Musicæ planæ" of Keinspeck, the "Musomachia" of Peter Lauremberg, and a complete copy of M. Prætorius's "Syntagma"; but the bulk of the catalogue consists of practical music, among which may be noticed the "Musæ Sioniæ" of M. Prætorius, and a fine collection of the works of Orlando di Lassus. To complete his work at Breslau, Herr Bohn subsequently printed a catalogue of the Musical MSS. in the Stadt-bibliothek—356 volumes, each containing several works.

A number of the lesser German libraries have been catalogued in supplements to the "Monatshefte für Musikgeschichte." Among these are the public institutions of Augsburg, rich in the works of the two Gabrielis, Gastoldi, Heinrich Isaac, Kerle, Lassus, Costanzo Porta, Orazio Vecchi, and Viadana; and the University Library of Gottingen, a small but choice collection of musical literature, among which is a copy of Cerone.

The well-known music publishing firm of C. F. Peters has offered a great boon to the numerous music students who

resort to Leipzig by the foundation of an excellent library for their use, with the advantage of Dr. Emil Vogel for librarian. This is a large collection both of theoretical and practical works, brought together mainly for purposes of utility, although many works of considerable rarity are contained in it. A catalogue was printed in 1894, but as the library is always increasing, annual supplements have become necessary, so that a search becomes in some instances a long process.

The city of Regensburg is well known to all interested in the subject as the centre of the revival of Catholic Church Music, under the late Karl Proske, who was admirably seconded by the publisher, Friedrich Pustet. A Society to promote this object was formed under the title of the Cäcilien Verein. This Society has formed a large collection of Church music, of which a catalogue was published in 1892, with later supplements, bringing the total number of works and collections contained in it up to rather more than 1,800. All the contents are in the strict Church style, no such works as the Masses of Haydn or Mozart being admitted.

One library in Switzerland, that of the Monastery of St. Gall, deserves to be mentioned; not so much for the extent of its collection as for the extraordinary interest of one of its MSS., the famous Gradual or Antiphonarium on vellum, said to have been copied by a priest or singer called Romanus from the autograph of Gregory-the-Great at Rome. It contains one or two other MSS of great interest.

The city of Brussels is peculiarly rich in musical collections. The library of the Conservatoire is extraordinarily strong in practical music. Two volumes only of the catalogue have been published up to the present time. They are admirably arranged by M. Alfred Wotquenne, and comprise 8,211 different works, the collection being wonderfully rich in scores of operas; there is a very long series of Haydn's symphonies, and a large collection of songs from operas produced in England during the 18th century, mostly published by Walsh.

But in addition, Brussels contains the famous library collected by the late M. Fetis during his long life. It was bought by the State for the sum of 152,000 francs (£6,080), and now forms part of the Bibliothèque Royale. A further sum was devoted to the formation and printing of a catalogue, which was excellently carried out. The total number of works catalogued is 7,325, but of these 1,157 are general literature, having no connexion with music. Practical music occupies 1,994 numbers, the literature of music 4,222 numbers, and it is in this department that the remarkable strength of the library is to be found. Of the practical music 1,045 numbers consist of religious music, including many manuscripts and rare printed Masses and other service books. It contains

two specimens of the press of Ottaviano Petrucci; many original editions of Palestrina; the six volumes of the "Patrocinium Musices" of Adam Berg, exclusively devoted to the works of Lassus, and the great collection of the motets of the same composer, formed by his sons, numbering 526, known as the "Magnum opus Musicum." Catholic Church music of course forms the larger part of this class, but the works of Protestant composers have not been neglected, as there is a complete copy of Bodenschatz's "Florilegium Portense," and several numbers of that book which it is almost hopeless to complete, the "Musæ Sioniæ" of Michael Prætorius, and there is a copy of Eslava's "Lira." In oratorios it is curiously weak. Of Handel, there is Arnold's edition. Coming to secular music, there is a fair collection of Italian madrigals, eighty-five sets in all, but in many instances, as is so frequently the case, incomplete. For English madrigals he appears to have been content with the "Musical Antiquarian" edition, but there is an original Wilbye's second set, and Gamble s "Ayres and Dialogues." Dramatic music is better represented: there is the "Balet comique de la Royne," the first edition of Peri's "Euridice" (Fiorenza, 1600), "Le nuove musiche" of Caccini, the "Orfeo" of Monteverde (Venezia, 1615), and a fair collection of Italian operas, about seventy, ranging from A. Scarlatti to Bellini. In French opera he is naturally stronger; there is a fairly complete collection of those of Lully, several of Campra, Destouches, &c., as well as of Rameau, Philidor, and Grétry, coming down to our own days in the "Mignon" of Ambroise Thomas. Instrumental music is weak, but there are several very rare lute books, and for the harpsichord the works of Couperin and Rameau, the rare "Componimenti" of Theophile Muffat, as well as some examples of Frescobaldi and Froberger. As I have already said, it is in the literature of music that this collection is so remarkable. Of course it was bounded by the life of the owner, so that works issued subsequently to 1871 must not be looked for. This rules off the flood of literature—"*hoftich*" and "*unhöftich*," in the words of Tappert—which gathered round the name of Wagner. It is altogether useless to recite the titles of the many rarities which it contains, for with the exception of the "Musica getutscht" of Virdung, it is hardly possible to think of a rare work which is wanting. Fétis was fortunate in his time, the general upheaval throughout Europe consequent on the wars of Napoleon had the result of dispersing a vast number of Monastic and other libraries, a chance which he was able to seize and to avail himself of. His knowledge of the subject was extraordinary, and at that time altogether exceptional, and although it is easy to point out faults and omissions in his Dictionary, it is to him that most of us are

indebted directly or indirectly for such knowledge of the bibliography of music as we may have been able to acquire. I feel it only right on this occasion to express my own obligations to this great man, and I may say further that from few books have I extracted more enjoyment than from the admirable catalogue which the munificence of the Belgian Government caused to be compiled, although it comes under Charles Lamb's definition of "a book which is no book."

Not content with the two very extensive libraries which I have been describing, it has been reported that the Belgian Government have bought another large private collection specially rich in operas, but at present details are wanting.

There is an immense collection of which a few words must be said, the Richard Wagner Museum formed by Nicolaus Oesterlein, a catalogue of which has been published in four octavo volumes, the items running to the extraordinary number of 10,387. It must be remembered, however, that it includes every trifle which in the very remotest degree bears on Wagner and his works. Every newspaper notice that Oesterlein could find, all the telegrams he could lay his hands on, every published portrait, not only of the master himself but of every actor who at any time took any part—however humble—in the production of his works, and each item is separately and completely catalogued, so that considering the discussion which has gathered round the master's name, the extent of the collection becomes the less remarkable, however greatly it may raise our estimate of the collector's industry and persistence.

The general fate of private libraries is their dispersal on the death of the owner. This was the case with the very excellent collection formed by Otto Jahn, mainly with a view to his life of Mozart. The late M. Martin, an esteemed professor at Marseilles, formed a very remarkable collection, rich both in literature and in practical music. It is described at considerable length in the supplement to Fétis's Dictionary. It was dispersed in 1885, very greatly to the advantage of my own collection. The library of the great musical writer, M. Coussemaker, shared the same fate in 1877, while the disastrous building speculations which have done so much to alter the character of the City of Rome compelled the Prince Borghese to sell his magnificent library, which contained a large number of musical works, many of the greatest rarity and in the finest condition. One other musical library in Rome must not be passed by without mention—that of the late Abbé Santini. He was an enthusiastic admirer of the earlier composers, whose works he sought out and copied with indefatigable industry. A quaint little catalogue of his collection was printed at Rome in 1820, and a description of the library was published by a

Russian amateur, Wladimir Stassoff. Many will remember Mendelssohn's mention of Santini in one of his letters: "If some evening I say I do not know such and such a piece, the very next morning he comes knocking gently at my door with the identical piece folded up in his blue handkerchief." Grove's Dictionary states that the collection is now in the Episcopal Palace at Münster.

It will have been noticed that I have said nothing of the great national libraries, and that is from the difficulty in many cases of forming any estimate of their contents. In our own British Museum Library—the best managed and the best catalogued in the world—it is impossible to form any idea of the number of works of the literature of music which it contains, as of course they are swallowed up in the general catalogue, nor is it possible to suggest any arrangement which would get over the difficulty, or any reason why music should be treated in a different manner from any other art or science. It would be a great delight to many of us if classified catalogues were obtainable, but the scheme is so gigantic that it seems altogether impracticable. One may fairly suppose that the existing catalogue contains at least as many works on the subject as any of the largest special libraries. The music is of course separately catalogued and forms a stupendous collection, for everything however trivial that is published in this country has to be received and catalogued. Such a collection of rubbish is awful to contemplate, but the necessity must be acknowledged. It is delightful on the other hand to know how rich it is in works of real interest, and to recognize the unceasing care with which Mr. Barclay Squire watches over the collection committed to his charge, and the zeal with which he allows no opportunity to escape him in rendering it more perfect. I believe that the collection of the publications of Petrucci is complete, and in that unique. A copy of Estava's valuable collection has lately been acquired. A volume of recent acquisitions of music published before the year 1800 was issued in 1899, but it would be a real boon to the musical student if a catalogue could be bought of all music printed before 1800. This would rule off a vast amount of uninteresting material which no one wishes to consult.

Of foreign libraries, the Royal Library at Berlin has been well cared for under a succession of able librarians, the Bibliothèque Nationale of Paris is also a valuable collection, but no catalogue is available except by favour of the custodians, so that its use is limited.

Returning to our own country, the Bodleian possesses many works of great value, as does also the University Library at Cambridge, but at the latter place the Fitzwilliam Library is of even greater interest and it possesses the advantage that

there is a printed catalogue compiled by Mr. Fuller Maitland and Dr. Mann. This collection contains the famous so-called "Queen Elizabeth's Virginal Book," and also a large collection of Handel MSS.

A collection of great interest was that formed by the Sacred Harmonic Society, mainly by the indefatigable labour of the late Mr. W. H. Husk, the honorary librarian; it has now become the property of the Royal College of Music. Several editions of the catalogue were printed from time to time under Mr. Husk's able editorship, and I am fortunate in possessing the whole series of his copies in which he has added the acquisitions made after each issue in his own exquisite handwriting. As became that Society the collection of Handel was excellent. One of the great features of the library is Barnard's "Selected Church Music," of which no perfect copy is known. The Society was fortunate enough to acquire nine out of the ten vocal parts, some however in rather sad condition. Whether the organ parts were ever printed is open to question. It was further fortunate in possessing seven volumes of Barnard's MS. collections made with a view to the printed work. It is peculiarly rich in English madrigals, containing no less than 44 sets, with all the parts complete; this is probably the largest collection of these works ever made in modern times, and forms a distinguishing feature of the library. There is also a large collection of foreign madrigals. A copy of Holborne's "Cithern School" is thought to be unique. The collection of English operas is very extensive, and the whole library is one of great interest, formed with much intelligence. In his preface Mr. Husk puts forward special claims for the excellence of the assemblage of "the Literature of Music," as including nearly every important work, ancient and modern, on the subject. On this I am compelled to differ from him. The collection of these works is small when compared with several other libraries, and many works of capital importance are not represented. The collection, it is well known, was acquired by Sir S. Fox and presented to the Royal College of Music, and I am informed is not made very available.

Gresham College possesses a small collection of musical literature of which a catalogue has been published, of no great interest, unless it be for the glees and madrigals formerly the property of the Concentores Society.

The late Mr. Wm. Ewing, an insurance broker in Glasgow, left a considerable collection to Anderson's University in that city. He also left the sum of £200 for compiling and printing a catalogue, which was not to be sold. The person employed appears to have been absolutely unqualified, and the conditions forbidding the sale have effectually rendered the collection useless. Fully aware of this stipulation, some

years ago I assumed innocence and wrote to the authorities of Anderson's College, asking if I could be allowed to buy a copy. A reply came that such a thing was absolutely impossible, and that moreover the edition was almost exhausted, so that they were quite unable to spare one as a gift, even if my case came within their legal powers as trustees. I was a little amused, therefore, some months later, to receive a copy "presented by William Ewing's trustees," with a letter from the Secretary saying that they had come across a parcel of the catalogues which they had overlooked, and that as I seemed interested in the subject they sent me a copy, and that at the same time they were sending one to Sir Arthur Sullivan (then Mr. Sullivan), who had also been anxious to have one. Possibly this copy may now be at the Royal College.

To those of us who pursue the subject, sale catalogues of well-known collections are of great interest. For instance, here is the sale catalogue, dated 1777, of the music belonging to the "Reverend and Learned William Gostling, one of the Minor Canons of the Cathedral Church of Canterbury." Mr. Gostling was a son of the famous bass for whom Purcell wrote the anthem "They that go down to the sea." The title-page is headed in Latin "Bibliotheca Musicæ reconditæ eximiæque locuples." We do not find Messrs. Puttick and Simpson indulging in Latin in these days, but the collection certainly deserved the description. It adds to the interest when these catalogues are priced, although our envy is sometimes raised. Here for instance is Bartleman's sale—lot 1,188, 21 sets of Madrigals, complete, bound in 6 vols., comprising Yonge's "Musica Transalpina," both sets, and others by Morley, Weelkes, Byrd, Gibbons, Wilbye, Bateson, Watson, Kirby, &c., fetched £12 12s.—which in these days would be a moderate price for each set!

These reflections are depressing! Let us turn to some existing collections in private hands in this country. And first we must mention that of Dr. Cummings, known to be very rich in the works of Purcell, but also comprising a large collection of the literature of music, and other items of interest. The late Sir F. A. Gore Ouseley read two papers before this Society on some of the treasures in his own collection, specially rich in Italian and Spanish theoretical works. These now remain at Tenbury.

The library of our friend Mr. Taphouse is known to many of us, thanks to the welcome he always extends to those interested in such matters. I have a lively recollection of a morning which passed but too rapidly in the examination of a few only of his treasures, and I have further to thank him for the loan of his catalogue for the purpose of this paper. I suppose the strongest department is his vast assemblage of

early lessons, sonatas, and other compositions for the harpsichord, as well as collections for stringed instruments, mostly belonging to the period of Walsh's activity as a music-publisher. In such works I think the collection must be unrivalled. But it is by no means confined to English printed works, as it contains Froberger's "Toccate," 1693, Rameau's "Pièces de Clavecin," Frescobaldi's "Toccate," 1637, Couperin's "L'Art de toucher le Clavecin," 1717, Muffat's "Componimenti," and many other works of the same nature. It is also very strong in musical literature; perhaps more so in English than in foreign printed works. But among them are many very enviable possessions two ordinances of the Lords for the destruction of organs, 1664; Lowe's "Directions for the performance of Divine Service" of the same date; "Musick's Delight on the Cithern," 1661, a copy of "Parthenia," and a few autographs, including a "Cadenza" by Mozart and original notes on "Music and Musicians" by Anthony à Wood.

I am not acquainted with the library of our late lamented President, Sir John Stainer; probably many here may have known it. But he had a very extensive collection of song-books, of which a privately-printed catalogue exists.

There are two ways of forming a library. The first is one which has been followed by the collectors of so many of the libraries which come to the hammer, and create a sensation by the enormous prices which their contents command. The object of the owner is to get together as many scarce and valuable books as possible, their rarity and fine condition being their chief claim to notice. This I call forming a museum and not a library. The other plan seems to me much more worthy of the pursuit of the student and scholar: to form such a collection on the department of knowledge chosen, as may enable the owner and his friends to follow up any course of study which may arise, and this is what I have attempted to do in the collection by which you are surrounded. Far be it from me to affect to despise beauty of print or rarity of occurrence. No real lover of books will do this, but such works have their place as forming part of a general and comprehensive plan rather than on their adventitious merits. One's aim is an unattainable completeness, and this involves the possession of many volumes of little or of only an historical interest, even some of actual futility. If I ever printed a catalogue of my library—which I am not likely to do—I always think I should choose for a motto on the title a quotation from the Scaligerana, "Je le veux avoir, non pas qu'il soit bon, mais je veux avoir tous," and I confess that I share the feelings of a great theologian who was urged by a friend to clear the rubbish off his shelves. "What would be the plight of a man obliged like me to have

a theological library if he were insensible to the charms of fallacy and twaddle? You will not persuade me therefore to clear the rubbish off my shelves. Every genus should be represented in a library; and most of all *the largest class!*"

It is in the literature of music that the value of my collection mainly resides; in this my aim has been catholicity, and so far as I know I have not allowed my private predilections to favour one branch at the expense of another. It is by the use alone of such a library that its merits can be estimated, but I am proud to hope that no branch of inquiry has been neglected, and that no one consulting it has gone empty away. I may say that there is a complete card catalogue, under authors, except in the case of biographies, in which case the book is catalogued under the subject of the biography, with of course a cross-reference to the author. The number of titles catalogued in the Fêtis library is 4,221, which is exceeded by about 1,000 in my own, and I believe that the proportion of rarities is as large as in that collection.

With regard to actual music my claims are more modest, much of it having been got together for actual use. I possess, however, rather a long series of early French operas by Lully and his successors, a few sets of madrigals both English and Italian, the first edition of Peri's "Euridice," 1600, and a complete set of Eslava's "Lira," which, although of comparatively modern date, has become of extreme rarity, so much so that Sir F. A. G. Ouseley's copy was supposed to be the only one in this country, but I have had my copy for many years, thus the statement has long ceased to be correct, and now a third copy is possessed by the British Museum.

It is impossible of course to judge of the utility of a library as a working collection from an afternoon's visit, but I have arranged round the room some of the rarer and more interesting volumes in my possession for your inspection.

The earliest printed work on music with a date is the "Theoricum opus armonice disciplinæ" of Gafurius, Naples, 1480, quarto. Of this I regret to say I do not possess a copy. My earliest book is the "Musices Opusculum" of Nicolaus Burtius, a work of great interest, and probably known by name to many of my hearers as containing one of the very earliest specimens of music-printing, which has been reproduced in facsimile in some excellent articles on music-printing by the late Dr. Chrysander in the *Musical Times* of 1877—the period of the Caxton Exhibition, when so many interesting examples of music-printing were assembled. The facsimile will also be found in Grove's Dictionary. The book is open at the page containing the well-known music example, which is printed from a wood-block. It will

be found rather a rough specimen. The object of the work is a defence of Guido d'Arezzo from the attacks of a Spanish musician, Ramis de Pareja, whom Burtius, with that amenity of manners characteristic of the time, calls "quendam hyspanum veritatis prevaricatorum."

Works on Plain-Song naturally form the largest class of early musical treatises. In the year 1488 appeared at Strasburg the "Flores Musice omnis Cantus Gregoriani," by Hugo von Reuthingen, a monk, whose name is believed to have been Spechtshart. It is a work of considerable interest. It will be found to be printed in type of two different sizes, both excellently formed. The original portion of the treatise, in the larger type, although printed continuously, really consists of hexameter and leonine verses, probably written in that form as likely to remain more firmly fixed in the memory, but certainly not conducing to clearness of exposition. The small type is a running commentary on the main treatise, and it may be hoped more easy of comprehension. The musical examples, which are numerous, have apparently been produced by two printings.

Although not fortunate enough to possess the 1480 Gafurius, I believe that I possess all the other editions of his works, which consisted of three separate treatises. A second edition of the "Theorica musicæ" was printed at Milan, in folio, 1492. This contains no musical examples, but some exceedingly rough wood-engravings, the title representing a man, possibly the author, at the organ, the others the proportions of the degrees of the scale according to Pythagoras.

The second book of Gafurius was the "Practica musicæ, sive musicæ actiones in iv. libris," Milan, 1496, folio. This as a piece of printing is in every way superior to the former work. It contains a well-cut title, and many musical examples from wood blocks.

A second edition of this work was issued at Brescia in 1502, and a further edition at Venice in 1512. The blocks in the text of the Brescian edition are identical with those of the original edition. In the Venetian edition they have been cut afresh.

The third work of Gafurius was the "De Harmonia Musicorum Instrumentorum Opus," Milan, 1518, folio. This is mainly devoted to an explanation of the music of the Greeks. The title has a cut of Gafurius discoursing to his disciples, apparently on the words "Harmonia est discordia concors."

These are the three original treatises of Gafurius, but in consideration for the want of learning among some of his pupils, he issued—or may we hope that one of his admirers issued—in 1508, his "Angelicum ac divinum opus musice, materna lingua scriptum." This was an Italian epitome of his "Theoricum Opus" and the "Practica Musicæ."

Controversy in those days was the soul of learning, and Gafurius was unable to keep clear of it. I have spoken of Ramis de Pareja and Burtius. In the "Harmonia Musicorum Instrumentorum," Gafurius expressed with vigour his views on the question, which were violently opposed to Ramis. A professor named Spataro intervened in the quarrel, in a way which roused Gafurius to fury. His wrath found vent in the roundly abusive "Apologia adversus Joannem Spatarium et complices musicos Bononienses," Turin, 1520, folio, a fine copy of which I am able to show you. The following year brought forth two rejoinders from Spataro, couched in language equally vigorous. These I am also able to exhibit, as well as an original treatise by the same author—"Trattato di musica," Venice, 1531, folio. It will be observed that in these works the examples are printed with much greater neatness.

From Gafurius one is naturally led on to Pietro Aron, who may be said to have succeeded the former as the principal theorist in Italy. His first work is said to have been entitled "Dell' Instituzione armonica" and to have been published at Bologna in 1516. I doubt the existence of this book, but a Latin translation of such a treatise was made by his friend J. A. Flaminius and printed at Bologna in the same year. His greatest work was his "Toscanello in Musica," of which five editions exist, the first dated 1523. My copy is of the third edition, Venice, 1529.

In 1525 he produced his treatise on the Church modes—"Trattato della natura et cognitione di tutti gli tuoni." Both these works have a frontispiece, from the same block, showing the master surrounded by his disciples. We have two other smaller works from the same pen, "Lucidario in Musica," Venice, 1545, quarto, discussing the opinions of various other writers on the subject of music. This contains a later portrait, with the motto "Virga Aron floruit." The other is an undated work, "Compendiolo di Molti Dubbi segreti . . . intorno al Canto Fermo," apparently collected from his conversation by admiring friends. No editor's name appears.

The "Musica Theorica docte simul ac dilucide pertractata" of Ludovicus Folianus, Venice, 1529, folio, is a book of great interest both from its subject and from the excellence of its printing. In the copy which you will find exhibited the paper is as white as the day it left the mill. It treats mainly of the proportions of intervals by the aid of ingenious diagrams, of which there is a great wealth, as well as a succession of bold but masterly woodcuts explaining the use of the monochord.

It will be well perhaps to conclude our consideration of the great Italian theorists of early times by mentioning the

works of Zarlino, which are probably better known than those we have already spoken of. They consist of the "Instituzioni Armoniche," first printed in Venice, 1558, and twice reprinted; and the "Dimostrationi Armoniche," Venice, 1571, reprinted 1573. His works were subsequently collected in three volumes. I have only thought it necessary to exhibit the "Dimostrationi," which is of the first edition. I must, however, mention a book called forth by the works of Zarlino, "Dialogo della Musica Antica e Moderna," Florence, 1581, folio, by Vincenzo Galilei, the father of the famous astronomer, who in it attacks his former master with much violence. Galilei followed up Zarlino's courteous reply by a very intemperate and curious little book, "Discorso intorno all' opera di messer Gioseffo Zarlino, Florence, 1589, octavo. It consists of 134 pages, but throughout all these there is no break of paragraph whatever, nor any index to help one on the way.

It was in the years 1879 and 1882 that the Rev. Sir F. A. Gore Ouseley read two papers before this Society on early Italian and Spanish works on music. This is so long ago that I think but few of those now assembled will have been present. I have therefore placed out my copies of the books to which he referred. The esteem in which Boethius was held gave a fictitious value to his views on music, but it had the result of making early copies of his works among the commonest specimens of ancient printing. I show a copy, not in very good order, of an edition, Venice, Gregorius, 1497-99. The actual first edition was dated 1492, and issued by the same printer. The best early edition was that edited by the scholar Glareanus, Basle, 1570, but, as Sir John Stainer pointed out, if anyone wanted to study this author there was an excellently edited German edition to be bought for eighteenpence. I have already spoken of the works of Gafurius, but I may mention that Sir F. Ouseley had never seen a copy of his "Apologia," which I have already shown you. The next volume is the "Recanetum de Musica aurea" of Stephen Vanneo, interesting as it gives the rules for sharpening the leading note, so generally in these days omitted in writing, but supplied traditionally. Sir Frederick seems to have looked on this as one of his rarest books.

The next work was the "Introduttione facilissima di Canto fermo," by Vincenzo Lusitano, Venice, 1558—one of a numerous class of works issued for the instruction of ecclesiastics in the due performance of religious rites. Sir Frederick states that Lusitano had a violent dispute in Rome with Nicola Vicentino concerning a question of ancient modes, and that his work was the result of this controversy. Vicentino answered in his "L'Antica Musica ridotta alla moderna prattica," Rome, 1555, a copy of which he was

unable to show. I am glad to say that I am more fortunate. The next work mentioned was "La Illuminata di tutti i tuoni di canto fermo," by Aiguino da Bressa, Venice, 1562, of which you will find a copy.

The rest of the works mentioned by Sir F. A. G. Ouseley were Spanish. The first of these is "De musica libri septem," of F. Salinas, Salamanca, 1578, folio, a book probably better known by reputation than some of the previous works. The author was blind from a very early age, but was able to acquire a deep knowledge of the science of music, into the whole scope of which as then understood he enters in his treatise. This brings us to one of the rarest works in the whole range of musical literature, "El Melopeo y Maestro, tractado de musica theorica y practica," of Cerone, Naples, 1613, folio. A very fine copy of this work I am proud to possess. It also claims to embrace the whole range of musical knowledge, witnessed by the motto on the title "Quid ultra quæris," and extends to about 1,200 pages Although by an Italian and published in Naples, it is written in Spanish. The history of the work is curious. The author, born in Bergamo, became a priest and joined the Chapel Royal of Philip II. and his successor Philip III. The kingdom of Spain and that of Naples were at that time under the same ruler, and thus the services of Cerone were transferred to the latter place. It is probable that Philip undertook the cost of publication, making his native language a *sine qua non*. It is said that the whole edition, with the exception of thirteen copies, was shipped to Spain, and that the vessel was lost on the voyage. No authority is given for the tradition, but there is no doubt that it is among the scarcest in musical literature. I have already spoken of the difficulty which Padre Martini had in obtaining a copy, and Dr. Burney was unable to do so. The late John Bishop, of Cheltenham, possessed a copy,

Sir F. Ouseley's second paper brings us down to a later date. The first works he notices are those of Artusi. His earliest publication was "L'Arte di Contrappunto ridotto in Tavole," Venice, 1586, folio. He published later a continuation of this work, but of this Sir Frederick never saw a copy—nor have I. It is, however, not mythical, as there are two copies in the Fétis library. His next work, of which I show a copy, is of more interest. It is entitled "L'Artusi, ovvero delle imperfezioni delle moderna musica," Venice, 1603, folio, These imperfections were the innovations introduced by Monteverde, which form the basis of modern music. The next work is Oratio Tigrini's "Compendio della Musica," Venice, 1602, quarto, described as a good treatise on counterpoint. Then follows Giovanni d'Avella's curious 'Regole di Musica," Rome, 1657, folio, which does not confine itself to

the rules of music, but branches off into the music of the spheres. Ouseley says, "The book if not practically useful is at any rate curious and rare, and as my copy is a remarkably good one I thought I had better lay it on the table with the others," and in this I follow suit, although mine is a little foxy.

We now come to a writer of much greater interest—Giovanni Battista Doni. He was a strong advocate of those opinions which had taken so firm a hold of Galilei, Peri, Caccini, and other learned Florentine musicians of a previous generation, that the Greeks excelled the Moderns in music as well as in all the other arts. His first work was his "Compendio del Trattato de' generi e de' modi," Rome, 1685, quarto. This was followed up by "Annotazioni sopra il Compendio," Rome, 1640, quarto, the "Annotazioni" taking 150 pages more than the original work. The exaltation of the music of the Greeks above that of the Moderns forms the ground idea of both these works, as of course it is of their successor "De Præstantia Musicæ Veteris," Florence, 1647, quarto. One of the results of his studies was the invention of an instrument to which he gave the name of "lyra barberina," in honour of Pope Urban VIII., specially adapted in his judgment for rendering Greek modes. On this instrument he wrote a treatise, which was published more than a century after his death, together with other works of the author, in two very handsome folio volumes, and edited by Gori and Passeri, both antiquaries of fame, in the year 1763, under the title "Lyra Barberina Αμφιχορδος." I have arranged the whole series. It will be noticed that the "Compendio" has the autograph of Lionardo Buonarotti, the nephew of Michael Angelo.

Following Ouseley, I exhibit a copy of Lemme Rossi's "Sistemo Musico,' treating only of the mathematical aspect of the science rather than of the art of music. Pedantry reigns triumphant in the works of Berardi, as follows:—"Ragionamenti Musicali," Bologna, 1682, 12mo; "Documenti armonici," 1687, quarto; "Miscellanea Musicale," 1689, quarto; "Arcani Musicale," 1690, quarto; "Il Perche Musicale," 1693, all published at Bologna. It will be noticed that some previous owner has had the first work, originally 12mo, inlaid throughout, to make it range with the rest. A large part of these works is mere trifling, for instance, "Arcani" is devoted to the construction of canons, "cancrizantes," and such futilities, but they are said by Fétis to contain much valuable information on double counterpoint.

Ouseley makes no mention of the works of Bottrigari, which have an interest if only on account of a curious mystification attaching to one of them. This is a book entitled "Il Desiderio overo de' Concerti di varij Strumenti Musicali."

Dialogo di Alemanno Benelli, Venice, 1594, quarto. The title is taken from the name of one of the interlocutors in the dialogue. Bottrigari not wishing to appear as author, induced his friend Annibal Melone to lend his name under the anagram of Alemanno Benelli. Of this work you will find a copy. Having lent his name for this purpose, Melone began to claim the honour of the book, which naturally annoyed the real author. He therefore proceeded to issue the work with a new title and preface, but using the old sheets for the body of the work. It will be seen that the name of the real author is very carefully pasted on each leaf *recto*, over that of Alemanno Benelli. This issue is dated 1599.

Sir F. Ouseley's paper wound up with the exhibition of a couple of Spanish works—the first, the great treatise of Andres Lorente, "Il Porque de la Musica," Alcalà de Henares, 1672, folio; the other the "Fragmentos Musicos" of Pablo Nassarre, Madrid, 1700. My copy is also of this second edition. Ouseley goes on to say that "Nassarre some twenty-five years later brought out a much more important work in two volumes folio 'Escuela Musica segun la Practica Moderna,' Zaragoza, 1724, 1723. This is a complete system of music of a most compendious kind. . . . Unfortunately it is an excessively rare work. I have never met with any mention of it in any catalogue of musical libraries, or great sales of music, nor have I ever seen any other copy but the one now before you. Indeed it has only been known to collectors and bibliographers from the reference to it in Yriarte's celebrated poem in praise of music. Becker in his 'Musikalischen Literatur' could only refer to it in that poem. Fétis alone mentions it as having seen a copy and examined it.' I therefore consider myself very fortunate in being able to show you an excellent copy of this work. It is a curious thing that the first volume is dated 1724, the second 1723.

We must now come to works published in Germany. I must make the confession that I do not possess the "Musica instrumentalis deudsch" of Martin Agricola, except in facsimile, but this may perhaps be condoned by showing you a copy of Virdung's "Musica Getutscht," supposed to have been printed at Basle in 1511. It is a work of the greatest rarity, five copies only being known, one of which belongs to another member of this Society, Mr. Alfred Littleton. The book has fortunately been issued in a very well-executed facsimile, so that its contents are probably well known to most here this afternoon. The interest mainly lies in the description of different instruments in use at that time. It is in German, but in 1536 Ottomar Luscinius (Nachtigall) issued a translation in Latin, with a

few additions. This work, which is much less rare, I place alongside the Virdung. It will be seen that the figures are printed from the identical blocks.

The Germans manifested almost as much industry as the Italians in publishing works on music, although I am disposed to think that the character of the treatises was more didactic than devoted to original investigation. Among the earliest, after the "Flores Musice" of which I have already spoken, is the "Opus Aureum" of Nicolaus Wollick, Cologne, 1501 and 1505, quarto, both of which editions I am able to show, and there was a later. It was followed in 1507 by the "Clarissima planc atque chorahs musice interpretatio" of Balthasser Praspergius, Basle, quarto. It is convenient to class Basle, as a German-speaking city, with Germany. Similar works follow in quick succession, and you will find the "Musicæ Institutiones" of Othmar Nachtigall, Strasburg, 1515, the "Opusculum Musices" of Simon de Quercu (Duchesne?), with a fine title in red and black, Nuremburg, 1516, the "Isagoge in Musicen" of H. Glareanus, with a woodcut title by Hans Holbein, Basle, 1576; the "Tetrachordon Musice" of Cocleus, Nuremberg, 1520; the "Musicæ, id est Artis Canendi Libri Duo" of Sebaldus Heyden, Nuremberg, 1537; the "Compendium Musices descriptum" of Adrien Petit-Coclicus, also Nuremberg, 1552, very noticeable for a portrait of the author, a man of exceptional ughness. It is a presentation copy with an inscription from the author. All these works have been in the Latin language. The "Compendium Musicæ" of Gumpelzhaimer has the text both in Latin and German (Augsburg, 1600), but this is the third edition. It has an admirably designed title, which from the style one would hardly suppose to be by a German artist. You will also find the "Musicæ Figuralis Præcepta brevia" by Wallisser, Strasburg, 1611, and the "Synopsis" of Crüger, Berlin, 1630, where the decadence of German printing begins to show itself. It is remarkable that the art which started with the absolute perfection shown in the Maintz Bible and Psalter should have deteriorated to that pitch of badness which we find in most of the German books of the 18th century. It will also be noticed that the titles of these German books are almost always ornamented with a wood engraving, while the Italian books depend for their excellence on being well laid out.

There are two works which we have not mentioned—the "Rerum musicarum Opusculum" of Froschius, Strasburg, 1535, folio, is mostly speculative, but contains some beautifully printed examples. The other is the "Dodecachordon" of Glareanus, a work of great learning and interest, turning on the identity of the church modes with those of

Greece. But the work has an additional interest as containing many examples of the works of Josquin des Près, H. Isaac, Okenheim, Pierre de la Rue and others. It is a beautifully-printed folio, Basle, 1547, the musical examples being admirably executed. It will be noticed that this particular copy belonged in succession to two great theorists, Aloys Fuchs, and Weitzmann.

Music appears to have been diligently taught to youth in Germany, for there is a large class of elementary works dedicated to their use. It is unnecessary to go through them seriatim, but I have laid out a collection, beginning with the "Ars bene cantandi" of Jacobus de Zabern, Maintz, 1509--a pretty little book—down to the "Isagoge Artis Musicæ ad incipientium captum maxime accomodata," Freiberg, 1650. They are all in small octavo.

The later German books, however interesting they may be for their contents, are so indifferently printed, on such very dusky and woolly paper, that they lend themselves badly to purposes of exhibition, and in addition German writers of this time showed an amount of pedantry which is really amazing. Look, for instance, at the "Musicus *ἀυτοδίδακτος*" which I have placed out. In the first six lines of the title the author, J. P. Eisel (whose name, however, does not appear), indulges in four different languages--Latin, Greek, German, and French. It must have been a real grief to him that he was unable to drag in some Italian! The book itself is not without interest. It is in the form of question and answer, and contains much information on the fingering and capabilities of the different instruments then in use. Of a rather earlier date are the works of Wolfgang Caspar Printz, where pedantry reigns triumphant. He is, however, entitled to the honour of being the first to attempt a general history of music, in his "Historische Beschreibung der Edelen Sing- und Kling-Kunst," Dresden, 1690, quarto. In his "Phrynis Mytilenæus," Quedlinburg and Dresden, 1676-1696, quarto, he excels himself in style. It is a satire against musical impostors. A fire at his house, which destroyed several works awaiting publication, can hardly be looked on as a misfortune by posterity.

Among the most considerable of the German writers on music was Mattheson, not only for the enormous extent of his writings, but also for their real value, though much of this is swallowed up in the flood of his foolish affectations. It will be remembered that this was the musician who so nearly put a premature end to the career of Handel, had it not been for the intervention of a fortunate button. His most famous work is "Der Vollkommene Capellmeister," Hamburg, 1739, folio, a book often spoken of but not often seen. Perhaps his most interesting work is the "Grundlage

einer Ehrenpforte" (Hamburg, 1740, quarto), a series of biographies of eminent German musicians, in many cases from information supplied by themselves. Its value to musical historians is of course great, and the book is of some rarity. The copy shown is said, on the authority of the excellent bookseller in Berlin from whom I acquired it, to be the finest he had ever seen, which does not suggest a very high standard for the rest.

I have not yet spoken of one of the greatest of the German writers on music, Athanasius Kircher, and I have taken this course as I do not like to separate him from Marin Mersenne, a French writer with whom he had so much in common. They were both priests, and both earnest searchers after knowledge at a time when scientific truth was beginning to reveal itself. Their love of knowledge was equally comprehensive—in fact it may be said of both of them, as of a famous Master of Trinity some years back, that their foible was omniscience. Joined with all this they both had more than a fair share of credulity. They differed in one thing, that while the German lived to a good old age, passing many years of his life in Rome, the Frenchman fell a victim to the heroic surgery of the times a little past middle life.

The principal work of Kircher concerning music is the "Musurgia Universalis," 2 vols., Rome, 1650, which covers the whole field of musical knowledge as then existing. It is not a very uncommon book, although I think the price shows a tendency to rise, but it is a most entertaining one, and will give a great deal of pleasure to anyone who investigates its pages—a pleasure not diminished by the elaborate trifling in which the author often indulges. His other work devoted to music only is one on the subject of echoes, "Phonurgia Nova," Kempten, 1673, folio. This also is of much interest, for among other points he anticipates the use of resonators, which were of such assistance to Helmholtz in his researches. There is a very characteristic investigation of the reasons for the fall of the walls of Jericho, but he comes to the conclusion that the question is beyond the reach of science. A German translation of the book exists under the title of "Neue Hall- und Thon-Kunst," Nordlingen, 1684, folio.

The works of Mersenne are much less common, although the "Harmonie Universelle," Paris, 1636, of which I show an excellent copy, for a long time had the reputation of being the rarest of all works of musical literature. In this it does not compare with such books as Virdung, Cerone, or the "Syntagma" of Prætorius. The late Mr. Quaritch seemed, however, to cling to the early tradition to judge by the price he asked for a copy in his possession some years back. It is Mersenne's best book, and like Kircher's "Musurgia," which it preceded by fourteen years, travels over the whole of musical

knowledge. In it he sticks to his subject with greater steadfastness than in most of his works, although his digressions are sometimes very perplexing, for instance, a versification of the Athanasian Creed. This habit of his is exhibited in his first published work — the plethoric folio which you will find with his other works. It is the commencement of a commentary on the book of Genesis. The mention of the musical attainments of Jubal was too much for the good Father, and off he rides on his favourite hobby, and it forms the text for a disquisition on the music not only of the Hebrews, but of the Greeks and even of the Moderns. It occupies one hundred and thirty-one pages, so that it is not wonderful that the work comes to a conclusion at the one thousand one hundred and seventy-fifth page, having completed his commentary on six chapters only of Genesis The work was not resumed.

You will find several of this author's works exhibited, more than one of which formed sort of trial-trips for the "Harmonie Universelle." There is one point which always arises in my mind with regard to these works of Mersenne and Kircher: the enormous expense of publication—these big books full of elaborate illustrations, both on wood and copper. When the smallness of the public of those days is considered, it is little short of marvellous that the authors ever succeeded in getting them through the press.

One other German work of the first importance remains to be mentioned, the "Syntagma" of Michael Prætorius, whose real name was no doubt Schulz. The work was to have been completed in four volumes, but his death at the age of fifty prevented its completion. I am able to exhibit an excellent copy. The first volume (in my copy the three volumes are bound together) is in Latin, and treats of the music of the Jews, tracing the history of the art down to the Romish Church, with a description of the Mass and other offices, and then proceeding to the secular music of olden times. It was published in 1615.

The second volume is of great interest. It is entitled "De Organographia," and he now adopts his native language. This volume is well known to many musicians, as an excellent facsimile of the plates has been published, giving figures of the various instruments in use at that time. The collection of plates is called "Theatrum Instrumentorum, seu Sciagraphia." The text is dated 1619, the figures 1620.

The third volume, also in German, is dated 1619, and treats of contemporary music in Italy, France, England, and Germany, but the only Englishman mentioned is Thomas Morley, and as a composer only.

We must now take a hurried trip through some of the leading French writers, which were by no means so numerous

as those of Italy and Germany. The first I have to mention is the "Musica libri quatuor demonstrata," by Faber Stapulensis, *i.e.*, Le Febvre, of Étaples, a work several times reprinted, first by Stephanus, Paris, 1510, and again in 1514, in this case joined with other works. This edition you will find together with the final edition in quarto (Paris, Cavellat, 1551). A work frequently printed was the "Utilissime musicales regule" of Guerson, first published in Paris at the beginning of the 16th century.

A curious and little-known book is "Les Tons" of Pierre Maillart, Tournay, 1610, quarto, the object of which is to prove, in contradiction of Glareanus, that the church modes have nothing in common with the Greek modes. Following in point of date we come to the works of that eccentric genius, Salomon de Caus, of whose "Institution Harmonique," Frankfurt, 1615, folio, treating mainly of the proportions of intervals, and of his "Raisons des Forces mouvantes," Paris, 1624, you will find copies bound in one volume. The second work has some interesting details on organ building. The little work of Des Cartes, "Musicæ Compedium," Utrecht, 1650, is well known and was frequently reprinted. The most considerable writer, Des Cartes' intimate friend, Mersenne, we have already noticed. I may also point out the rather rare original edition of Brossard's "Dictionnaire," Paris, 1703, folio, so many times reprinted and also pirated.

The "Traité de la Musette" of Borjon, Lyons, 1672, folio, is a very handsome volume of great rarity, as is Jean Rousseau's little "Traite de la Viole," Paris, 1687, and interesting as containing details of some of the French performers of that time.

A curious and very scarce work which deserves mention is the "Orchesographie" of Thoinot Arbeau, Langres, 1588, quarto, of which I possess a most enviable copy. It is of course a treatise on dancing, but it contains many examples of dance tunes of the period, which give it a great interest to musicians. With this work may be joined other treatises on the same subject, such as "Le Gratie d'Amore" of Negri, Milan, 1602, and the works of Caroso, "Il Ballarino," Venice, 1581, and "Nobilta di Dame," Venice, 1600, both quarto.

I am afraid that England runs rather a bad second to France. One of the earliest works I can show is Dowland's translation of "Ornithoparcus his Micrologus," London, 1609, folio, of which I possess a very poor copy, as I do of the first edition of Morley's famous "Plaine and Easie," London, 1597, folio, but I am not ashamed of my copy of the second edition of 1608. I also put out copies of those queer books, Buller's "Principles of Musick in singing and setting; with the twofold use thereof," London, 1636,

quarto, a good book in itself, but remarkable for its phonetic spelling, and his other work "The feminin' Monarchi'," Oxford, 1634, quarto, of which the interest to musicians centres in the "Melissomelos, or Bees' Madrigall," descriptive of bees swarming. You will also find Locke's "Melothesia."

Of Christopher Simpson's "Division Violist" I have all three editions, but show the second. The "Compendium," as well as Playford's "Introduction to the skill of Musick," are too well known to exhibit, but you will find an excellent copy of that delightful book, Mace's "Musick's Movement," and in addition a curious advertisement announcing the work at the end of a pamphlet by the same very remarkable author on a "Rational Discourse concerning the Highways of England," "printed for the Publick good," 1675. He gives as his reasons for advertising the work that "he considers he may do both himself a conveniency by it, and many worthy Persons a kindness in letting them know that such a book is coming forth."

I am afraid I must now detain you a few minutes longer while I show you some few rarities in practical music which I possess. And first I must show you a very grand volume of motets for 4, 5, and 6 voices, Augsburg, 1520. Fétis, who possessed a MS. copy only of this work, describes it as printed from wooden blocks, but it will be seen on examination that it is really worked at two printings. The motets are by H. Isaac, Josquin, P. de la Rue, Obrecht, and Senfl. The parts are *en regard*, as they are in the "Patrocinium Musices" of Adam Berg, Munich, 1580, a volume of which, containing a Passion for 5 voices, "Lectiones" of Job, and "Lectiones Matutinæ de Nativitate Christi," for 4 voices, by O. di Lassus, you will find. This great work, of which six volumes were devoted to the compositions of this master, was completed in ten volumes. A volume of posthumous Masses by Lassus, published after his death by Nicolaus Henricus, Munich, 1610, seems to be printed from the identical type of the "Patrocinium." In the year 1604 the same printer issued a complete edition of the Motets of Lassus to the number of 516, collected by the piety of his sons. These are much more modern in appearance, each part being separately printed. The work, of which I have a complete copy, consists of six volumes. Twenty-one years later, Gaspar Vincentius published at Worms a "Bassus ad organum" to the whole collection, and this I also show.

Another large and valuable collection of Motets was the "Florilegium Portense" of Bodenschatz, in nine volumes, quarto, Leipzig. It contains 215 motets by various composers. The work is in two parts, and mine is the second edition of the first part.

Although belonging to a much later date, it will be as well to complete the notice of sacred music by directing attention to a volume of Eslava's "Musica Sacra," a most valuable collection of Spanish music, the rarity of which is so well known.

Of madrigals I am able to show a few sets, a couple by Monteverde, one by Cipriano di Rore, one by Luca Marenzio, and one by Arcadelt. With the exception of the last, these are printed at Venice, and it will be noticed how bad the execution had become. Of English madrigals I have the first set of N. Yonge's "Musica Transalpina," London, T. East, 1588 (the first work of this nature published in this country), Farmer's madrigals, 1899, Wilbye's second set, 1609, and Croce's "Musica Sacra to Sixe Voyces" 1608. Of these copies all the parts are complete. To them may be added Ravenscroft's "Deuteromelia," 1609, and "Melismata," 1611, the latter containing the Christmas Carol, "Remember, O thou man," which some writers have looked upon as a germ of "God save the King." I may mention that Sir J. F. Bridge arranged the carol from this copy, and that it has been sung several times at the Abbey. You will also find the exceedingly rare "Musicall Banquet" of Robert Douland, containing specimens of lute tablature, and of some few years later one of Purcell's "St. Cecilia's" Odes, 1684. I also put out my copy of Blow's "Amphion," on account of the beauty of the portrait.

The first specimen of dramatic music is "incidental" and not operatic, and is probably the first printed example. It consists of a chorus or two inserted in a drama by the great scholar, Reuchlin, for a school performance in the year 1514. In the "Balet Comique de la Royne" the music is also only incidental. The book is a rare one, and although the copy has gone through a sad experience, many will be glad to see a work so often alluded to. And this brings me to the first real opera, the famous "Euridice" of Peri, of which I am able to show you a copy of the first edition dated 1600, which is one of the treasures of my library. By a curious coincidence, for it is a strange slice of luck, I am able to place with it an original "book of the words" of the same date, as well as that of "Dafne," set to music by Corsi, the libretto in both instances being by the poet Rinuccini. I am afraid there is a large gap between this first opera and those of Lully, of which my collection is almost complete, as indeed it is of his somewhat dull successors, Campra, Destouches, Desmarets, Collasse, and Lacoste. I have also a number of Rameau's operas. I put out "Hippolyte et Aricie," as it was the first to bring him into celebrity. This is folio, while all its successors were oblong quarto.

This leads us to instrumental music, and you will find a copy of Rameau's "Pièces de Clavecin," Paris, 1741, folio; also the beautiful first edition of Corelli's Solos, Rome, 1700, oblong quarto, as well as the pirated edition in the same form by Etienne Roger, Amsterdam. I must also call your attention to a curious set of Sonatas à tre, by Giovanni Ravenscroft, alias Rederi, Inglese. This is printed (very badly) in Rome, 1695, in quarto, and I believe was issued by Roger as a work of Corelli.

Finally, there are two splendid specimens of music printing, a set of studies by Domenico Scarlatti, and the very rare original edition of Muffat's "Componimenti," and as a contrast a set of Toccatos, &c., by Froberger, which I find puzzles the best reader.

And now I must conclude, not so much that I have exhausted all my works of interest, but that I fear I have tried your patience.

NOTE.

This Meeting was held at the residence of Mr. J. E. Matthew, who exhibited a large number of interesting and valuable books in his library.

DISCUSSION.

The Chairman (Mr. Prendergast).—We have met under exceptional circumstances — circumstances of exceptional interest and, I hope I may say without disparagement to our usual quarters, of exceptional comfort. I think the paper has been exceedingly interesting, and I will ask you to pass a hearty vote of thanks to Mr. Matthew for his paper, and for his very kind hospitality.

(A vote of thanks was passed by acclamation.)

As to the subject of the paper, I think there is nothing substantial that I can add to it. I think I might mention that it is stated in the appendix to Grove's Dictionary that the library of Durham Cathedral has been catalogued by Dr. Armes. Now I think we should like as far as possible to take a look at these works with which we are surrounded. If however any one present has anything to say on the subject we shall be pleased to hear from him.

Mr. Southgate.—I should have liked to take a glance at some of the statements Mr. Matthew has made in his most interesting paper, but of course we must have some regard to the time. A great deal of what he said was of the deepest interest to all who value old books. He quoted the motto, *Quid ultra quæris?* Looking round here I think the proper

answer should be *Nihil!* He seems to have almost every book that one would desire to see; yet I daresay, considering the desires that collectors always seem to display, there are some more books that even Mr. Matthew would like to possess. With regard to the foreign libraries, we often hear it said, you have nothing like this in England. But one must remember the great change that took place at the end of the Reformation. Soon after that the Puritans in their terrible iconoclastic fury destroyed the service-books, broke up the organs, and sold the pipes I believe for pots of ale. That is one of the reasons why our cathedrals cannot boast of the treasures that are to be found abroad. But still there are some libraries that we are proud of. Ely has been mentioned; that is very complete, because no portion of it was destroyed. Amongst others are the old monastic books, giving an account of almost everything that was done daily—even the food they had to eat. At Hereford also the library has not been destroyed. It was in a difficult place for the Cromwellians to find, and one has to go to the roof of the choir aisle. A curious old custom still obtains there. Many of the books are chained, and run along fixed rods. A great many bibliophiles seem to care little for the contents of their books, but value them only for their rarity or for their condition. But Mr. Matthew is not one of those; he can tell you what there is of interest within the covers. Sebastianus Virdung's book (1511) is a specially interesting volume. Many of the engravings are quite valuable. It is written in a Bavarian dialect very difficult to translate, but the pictures are very interesting. You find there the earliest illustrations of the old keyboard. One shows all the keys white but one; the sole black note corresponds to our B flat. A few pages farther on you can see our modern chromatic keyboard. The scale up to just before Virdung's time was simply the diatonic scale with an additional B flat (the flat 7th used in the key of C). There is another curious cut I remember, he gives a picture of the kettle-drums, and he says: "They make so very much noise that I verily believe they were invented by the devil." Then we come to Prætorius. What an interesting book he has left us! The number of engravings of old instruments in that book, and the careful way in which they are executed, is most entrancing. There are organ-pipes of different kinds correctly drawn to scale, regals, and a variety of ancient instruments. It is certainly a book to look into, and not merely to keep on the shelf. Still more remarkable is the great work of Mersenne. He treated of everything in music, harmony, composition, instruments, and also vibrations. If you look at the work of that wonderfully gifted patient old monk, you will find he gives the vibrations of the various

scales set out to C, showing the mathematical ratios for every possible interval. Our lecturer mentioned the German Society that reprints these old books. I wish it were better known in England. There are many old books like those I have referred to that we could print very well in England. How rare is Master Mace's "Musick's Monument"! Some years ago I was approached by a gentleman who said, "Is it not possible to find a society to reprint these books?" I cannot help throwing it out as a suggestion to the members of this Association. I do not think it would cost us very much money, and I believe it would greatly add to our knowledge of the past history of the art. Mr. Matthew mentioned Sir Frederick Gore Ouseley's papers. I was not only present on the occasion when they were read, but it fell to my lot to be asked to reduce them for his "Life" which was published by Mr. Joyce. I would like to say in mentioning his name, that he was not only a great man and learned musician, but his diligence was extraordinary. He had these fine Spanish and Italian books, and you will find the sides of them filled with annotations. He told me he learned Spanish in order to read those books; Italian he spoke beautifully. One mentions that to show what a diligent and learned man he was, and how he valued his books, and did not merely keep them on the shelves for show. I am sure music owes a great deal to Mr. Taphouse for his diligence in collecting the instruments and music, and for his great kindness in showing them. Not long ago Mr. Taphouse bought at a sale at Puttick and Simpson's a rather shabby-looking old book of manuscript music. He took it home, and found it was a book no doubt made for the Finch family at Burley House by Oakham—their name occurs in it. Among other music it contains a Violin Sonata by the great Purcell—the only one he ever wrote; it was never before known that he had written such a piece. Mr. Taphouse was good enough to allow it to be reprinted. Unfortunately this was done in Germany, and in a terribly mutilated form. Sir Frederick Bridge when he heard Mr. Cobbett play it was so annoyed to find how badly it had been treated that he has prepared a correct edition, which will shortly be produced in the *Musical News*.* It is really a very fine sonata, and I for one say that if the name of Sebastian Bach was attached to it, I should readily accept it. That is an instance of what a collector of books may do.

Mr. MATTHEW. — With regard to Mace's "Musick's Monument," I might mention that it has been nearly entirely reprinted in Southey's "Doctor"—a most unlikely place to look for it, but there it is.

* It will be found in the *Musical News* of May 30, 1903.

May 12, 1903

THOMAS LEA SOUTHGATE, Esq.,

In the Chair.

THE INFLUENCE OF THE ORGAN IN MUSICAL HISTORY.

By A. Madeley Richardson, M.A., Mus. Doc.

Gazing at the stones of some great Cathedral, filled with wonder and admiration at its grace and beauty, as we watch the sweep of its Gothic arches, the intricacy of its tracery, the perfection of its proportions, our eye falls upon the organ, and we are set a-musing. Some five hundred years ago the last word was said in the development of Gothic architecture. Since then fashions have come and gone; one generation has praised its virtues, another has ignored them altogether, but none has been able to improve upon them. Reproduction and imitation we have had in plenty, but no advance. The architecture of the Middle Ages culminated some time in the fifteenth century; it has left its witness in stone poems all over the land. Since then all attempts at development have meant decadence, all endeavours after improvement, corruption.

Arts have their rise, their culmination and their fall. At the time when architecture was at its zenith the art of organ-building was in its infancy. If we could now see one of the organs used by the builders of our great Cathedrals we should smile at its crudity and ineffectual simplicity. What would one of our forefathers of five hundred years ago say if he could rise from the dead and see and hear that marvel of human ingenuity a modern organ? Such development would seem to him absolutely incredible: he would attribute it to the agency of the evil one.

The wonderful growth of the organ in the last five hundred years corresponds with the growth of the musical art itself: the instrument has changed and varied to as great an extent as musical form; the two have acted and reacted upon one another. So much can hardly be said of any other one instrument; this distinction belongs solely to the organ.

As an instrument the organ surely is now perfect, having reached the point attained by architecture five hundred years ago. Is further development possible? Who can tell? If not, must we inevitably look forward to decadence and decline? Maybe,—both with regard to the organ and to the musical art generally—but this is anticipating.

It is interesting to note what are the characteristics that distinguish the organ from other instruments

There is the diapason or pure organ tone—that produced by open metal pipes This is peculiar to the organ, and has never been imitated by any other means.

Then again there is the use of compound tones—that is the sounding together of a number of pipes to a single note which will include, besides duplication of the unison and its octaves, other sounds taken from the harmonies of nature, blending together in such a way as to give the effect of one brilliant sound—just as a ray of sunlight is compounded of many colours, but to the naked eye appears as one and simple, its composition only becoming evident when subjected to scientific experiment. The justification for compound tones on an organ is just the same as for the ray of sunlight, though the mixture stops were used for centuries before they were proved to be scientifically correct by Helmholtz's theory of musical quality.

Further, there is the compass. The organ possesses an upward and a downward range far beyond that of any other instrument. In both directions it reaches the utmost limit of human hearing. Its compass extends from the enormous depth of a pipe sixty-four feet long to the tiny sound of one three-quarters of an inch in length, both brought instantly into play by the touch of a finger. The use of these extreme sounds has alone been rendered possible by the ingenious mechanism of the organ; except for it we should never have heard them at all. The value of the grand and stately bass associated with the pedals of an organ is undeniable, but all attempts to reproduce it in orchestral instruments have hitherto failed.

Finally, the organ possesses the power of sustaining any number of notes for any length of time, a power which in itself separates it from all other single instruments.

The organ stands unique and alone among instruments. It is at once the greatest and the least. It possesses the greatest power and the greatest variety. It is in itself a whole orchestra, controlled by a single player. But there is the one thing lacking, in which it falls short of all, that is the power of expression. In this it is absolutely deficient. What is known as the human element belongs not to it. It is grand, stately, cold and still, completely wanting in what is considered by some the one essential of music.

What do we mean by expression? We talk of it freely—we regard it as the one guiding principle in musical performance. What is the thing itself? It is the *living* element in music. Life implies growth and constant change: musical expression means continual variety. In the highest of all instruments, the human voice, the sounds are produced by the living body itself, they possess its life; they proceed direct from the mind of the performer to the ear of the listener with no intervening artificial agency, and so they possess that poetic beauty which is associated with the works of nature. As no two flowers can be found precisely alike in every particular, so no two notes in the human voice will be exactly identical. Is it not this that gives it its power? To pass on to other instruments—the more completely the production of the tone is under the control of the player the more perfect is the expressive element; and so we place the violin, on which each note is new made every time it is sounded, as next to the human voice in order of merit. The pianoforte is further removed, as on it the sound is only partially under the control of the player; he can govern its commencement alone, beyond that he is helpless. And when we come to the organ, the performer has lost all power of controlling the quality of sound: all he can do is to decide when it shall commence and when it shall cease, its production is entirely through artificial means. It is the voicer of the pipe not the player who gives the tone: what the former makes it that it remains. It may be never so beautiful, much more perfect than many of the notes produced by singers or players on other instruments; but that does not satisfy us. We rebel at its changeless identity: it is lacking in the essential element of musical expression—moving and living variety.

The genius of the organ is not in the direction of expression, the most it can do in this way is the artificial effect of the silencing or sounding of whole sets of pipes and the opening and closing of swell shutters upon all pipes in use. These produce only general effects, and are a mere makeshift substitute for true expression, which must be found in individual sounds.

Nevertheless, the organ has a virtue of its own, even in this particular. Sometimes the ear craves for a broad sustained stillness of sound from which human emotion is absent. This the organ can give as no other instrument can. Its very defects appear as virtues.

The stately and soothing tones of the organ are seen to be specially appropriate to religious music, suggesting rest and peace after strife and turmoil, and so it has come about that the natural home of the organ is the Church: there it has grown up and developed, there it has been and is in constant use.

The use of the organ in secular music is the exception, in sacred, the rule.

In tracing the development and influence of the organ it is further noticed as remarkable that in its employment in connection with sacred music it has been more in evidence in Protestant than in Catholic worship music. The reason for this is not quite clear, but the fact is patent.

It will be interesting to notice very briefly some points in the development of the organ from the earliest times to the present day.

Plainly the earliest germ of the organ is to be seen in the familiar *Pan pipes*. When these were made to sound by mechanical means then we had the first organ.

Examining the information that has come down to us through history, we are struck by the seeming extreme slowness of development. Contrivances that might seem obvious at once to a person of ordinary intelligence took centuries of invention.

The earliest record we have of anything bearing a resemblance to our modern organ is that of the *Magrephar* mentioned in the Talmud as having stood in the Temple of Jerusalem. It is said to have had ten notes with ten pipes to each note—a hundred pipes sounded by mechanical means. Clearly an organ as we understood the word, but as to the details of construction and the effect it produced we must be content to remain in ignorance. The word organ when used in the Old Testament must be understood in its general sense as meaning "instrument"; there is no evidence to show that in the early Jewish days anything corresponding with the word in its limited sense was known.

Let it be remembered that in early organs the pipes were all sounded at once: it was the business of the player to stop those that were not required. What an obstacle to advance! and it took centuries to devise another plan. The plan, when it came, was to control the sound by means of wooden sliders under each pipe, which acted by being drawn forward or pushed back. This device continued in use for further centuries until it was superseded by huge pallets with levers to work them. The levers were the first germ of the keyboard, which in course of time emerged from them.

In the early days of the Christian era organs were not used in churches, their first introduction is supposed to have been between the fifth and seventh centuries. The poet Claudian, writing A.D. 400, describes an organist's performance as follows:—"Let there be also one who by his light touch forcing out deep murmurs and managing the unnumbered tongues of the field of brazen tubes, can with nimble fingers cause a mighty sound; and can rouse to song the waters stirred to the depths by the massive lever."

This refers to a hydraulic organ, and it will be noted that the pipes mentioned were of brass. It must not be supposed that the water was actually driven through the pipes when they were sounded. Hydraulic organs, which appear to have been much in vogue at this period, were also pneumatic organs, the weight of the water being used to give a continuous pressure to the air, the modern bellows and reservoir being a much later invention.

The progress made during the next five hundred years can be seen by the following translation of a Latin poem by Wulstan (died 963). It is the description of an organ built in Winchester Cathedral by order of Bishop Elphege, and for it I am indebted to Dr. Hopkins' article on the organ in "Grove's Dictionary of Music":—

"Such organs as you have built are seen nowhere, fabricated on a double ground. Twice six bellows above are ranged in a row, and fourteen lie below. These, by alternate blasts, supply an immense quantity of wind, and are worked by seventy strong men, labouring with their arms, covered with perspiration, each inciting his companions to drive the wind up with all his strength, that the full-bosomed box may speak with its four hundred pipes which the hand of the organist governs. Some when closed he opens, others when open he closes, as the individual nature of the varied sound requires. Two brethren (religious) of concordant spirit sit at the instrument, and each manages his own alphabet. There are moreover hidden notes in its forty tongues, and each has ten pipes in their due order. Some are conducted hither, others thither, each preserving the proper point for its own note. They strike the seven differences of joyous sounds, adding the music of the lyric semitone. Like thunder the iron tones batter the ear, so that it may receive no sound but that alone. To such an amount does it reverberate, echoing in every direction, that everyone stops with his hand his gaping ears, being in no wise able to draw near and bear the sound which so many combinations produce. The music is heard throughout the town, and the flying fame thereof is gone out over the whole country."

Notice that it is not a modern notion to value the effect of a musical performance by the strength of its tone. A striking proof of the growth in size of the organ is shown by this account. The four hundred pipes are mentioned as a remarkable number; a large modern organ will contain four or five thousand.

When we come to the end of the eleventh century the sliders for sounding the pipes gave place to the keys or levers already mentioned. But what sort of keys were they! Huge, clumsy things from three to five inches wide, an inch

and a-half thick, half-a-yard to a yard in length, and with a fall of as much as a foot. Not much promise yet of our modern instrument; but we must progress slowly.

In the twelfth century we notice that mutation pipes were introduced sounding fifths and octaves, and later thirds and tenths. This is an important step, and we shall have more to say about it. Still there was no means of silencing pipes that were not required; all belonging to any given note must be heard together—a perpetual full-organ. What a seemingly hopeless condition of things!

In the fourteenth century, according to Prætorius, the remaining chromatic semitones were introduced. It will be remembered that in the Winchester organ of the tenth century there was only one, "the lyric semitone," *i.e.*, B flat.

Prætorius gives an interesting description of the organ in Halberstadt Cathedral in 1361. It possessed chromatic keyboards, the earliest of which we have any record. But it must be observed that the chromatic notes were placed above and apart from the naturals, forming practically a separate keyboard. However, there they were—twelve notes within the octave, pointing forward to the wonders of our chromatic harmony, though this was little dreamt of by the men of those days. This organ also was the first that could be varied in regard to strength of tone, being divided into two manuals and pedal organ. One manual gave the full organ, and the other acted upon a single row of pipes, the pedal governed the lowest bass pipes, which were of thirty-two feet pitch. This all marks great advance, though, to be sure, the keys were still of an enormous size, and had to be manipulated by the whole weight of the hand and arm as before. Hence the description of the early organist as "pulsator organorum."

From this point onwards the instrument rapidly developed until three hundred years later it resembled in most essentials the organ of to-day. The keys were steadily reduced in size until at last they reached the point at which an octave comes within a span, and there they have stopped. The compass was increased upwards and downwards. Pedal keyboards became general in Germany, though, strange to say, they were not adopted in England till the beginning of the nineteenth century. After the introduction of means by which any single row of pipes could be used either alone or in combination, new effects were gained by the use of metal pipes of varying size and shape, and of wooden pipes, closed and open. Reeds were introduced in the fifteenth century, and paved the way to the invention of the various imitative stops in which the organ is now so rich.

The influence of the organ in musical history has been without doubt real and extensive, and may be seen in the development of tonality, the scale, harmony, counterpoint

and musical form, on individual musicians and on styles of composition.

When a mental comparison is made between our modern chromatic scale and the scale of seven sounds of the early organs it will be seen how wide is the gap which separates the two. The foundations of music have completely shifted. The art-material now used is quite a different thing from that of seven or eight hundred years ago. In the gradual growth and development of the scale, upon which everything depends, the keyboard instruments have played a prominent part, and the parent of all keyed instruments is the organ. Mr. Hipkins, in an interesting article in "Grove's Dictionary of Music," writes: "The influence of the keyboard upon the development of modern music is as conspicuous as it has been important. To this day C major is natural on the keys, as it is in the corresponding notation. Other scales are formed by substituting accidentals, sharps, and flats for naturals both in notation and on the keyed instrument, a fact which is evidence of the common origin and early growth together of the two. But the notation out-grew the keyboard. It has been remarked by Professor Huxley that the ingenuity of human inventions has been paralleled by the tenacity with which original forms have been preserved. Although the number of keys within the octave of the keyboard is quite inadequate to render the written notation of the four-and-twenty major and minor modes, or even the semitones allied to the one that it was first mainly contrived for, no attempts to augment the number of keys in the octave or to change the familiar disposition have yet succeeded."

It will be remembered that the early scale of seven notes in the ancient organs was something that we cannot now reproduce; it is not accurately represented by the seven white keys upon the modern organ or piano, because equal temperament has stepped in and changed the character of the intervals. The organ was the only early instrument with a fixed tuning which could be taken as a permanent guide to the scale. The flue pipes of the organ once tuned will stand for an indefinite length of time, some other instruments are liable to become constantly out of tune; others again, including the human voice, have to determine the pitch of every note at the time of its production; therefore the scale of the organ would be the one guide and assistance in the transformation which was necessary in order that the old pure melodic modes should give way, first to the tonality of the pure choral style, and finally to the modern chromatic scale.

I suppose that the gradual changes involved were introduced not so much by logical and scientific means as by

artistic selection and instinctive preference. By no manner of means can our modern scale be defended on scientific grounds; it is false and imperfect through and through, but without it modern harmony would be an impossibility, and so we choose it: we prefer the poetry of the imperfect to the cold logic of the perfect.

The organ having a fixed tuned scale and also the power of prolonging any given sounds for an indefinite length of time would naturally be the means for the experiments that must have accompanied the early attempts at Harmony which ultimately involved the change of tonality.

The old "Organum and Diaphony," was flourishing in the tenth century.

The first Equal temperament was used between 1688 and 1693.

The final triumph of Equal temperament was only reached about the middle of the nineteenth century.

These points may be regarded as landmarks in the history of tonality, which (is it too much to say?) has owed its development to the influence of the organ.

We are in the habit of making merry over the first attempts at Harmony known as "Organum"—those successions of fourths and fifths which sound to our ears so intolerable. Nevertheless, they were a necessary step in the progress of music. Without them we should never have had Harmony at all, and it must be remembered that the intervals in question were the only consonances at first available, the third—now so dear to the modern harmonist—being at that time so out of tune as to be intolerable to the ear.

The term "Organum," although when used by mediæval writers invariably referring to a vocal part, must have been derived from the instrument itself, meaning *a part added after the manner of organ-playing*. How else came it into use? And this view is supported by Burney, who quotes a writer of 1286 defining "organum" as "canere in modo organi."

All Harmony may be divided into concords and discords.

If the evidence of one word points to the fact that we owe the former to the organ, does not another tell us that for the latter we are indebted to the same source?

What is the meaning of *Organ-Point* and *Pedal-Point*? The sustaining of one part at a fixed pitch while others pass from concord to concord through one or more intervening discords. At first applied to a lower note, and later to one in any position, these terms are obviously derived from the use of organ-players, and from this has been developed one of the most important principles of modern Harmony and Counterpoint—the principle of all passing notes, which are the life and soul of our music. Every instance of a part

passing through a discord from one concord to another displays the germ of a pedal-point.

It is curious to note how the influence of the organ is indicated by the use of words. The early Counterpoint was rendered by singers who sang a new tune against one already known. This was called the "art of organising," and the performers who practised it were called "organisers."

So it is seen all down the History of Harmony it is ever the organ as the representative of keyed instruments that is guiding the way. Its sustaining power first suggested the combination of two melodies—that Counterpoint which led the way to Harmony; its chromatic keyboard necessitated the definite nomenclature of chromatically altered sounds which were originally supplied from memory by the performer, guided by certain rules. As new keys and modulations were attempted, its fixed pitch suggested that adjustment of intervals which resulted in equal temperament. Equal temperament, that compromise so dreadfully illogical and unsatisfactory from a theoretical point of view, is the one thing that has made the wondrous complex system of chromatic harmony practicable, and has pointed the way to effects and combinations which can only be justified on the basis of its acceptance. Coming as a makeshift it has remained as a foundation; coming as an apology it has remained as a principle.

In going through the names of individual musicians that stand as landmarks in musical history, it is remarkable to note that while some appear to have been much influenced by the organ others have been not at all.

One of the earliest records of a distinguished organist is given by Burney, who writes:—"The organ being the most complicated instrument in use in the Middle Ages, and capable of producing greater effects than any other, seems to have excited the first amazement at the performer's skill, which modern history has recorded." Philip Villani (1343-1405) writes of Francesco Cieco: "Many are the Florentines who have rendered themselves memorable by the art of music, but all those of former times have been far surpassed by Francesco Cieco, who still lives, and who during childhood was deprived of sight by the small-pox. He was the son of Jacobo, a Florentine painter, of great probity and simplicity of manners; and being arrived at adolescence, and beginning to be sensible of the misery of blindness, in order to diminish the horror of perpetual night, he began in a childish manner to sing, but advancing towards maturity, and becoming more and more captivated with music, he began seriously to study it, first by learning to sing, and afterwards by applying himself to the practice of instruments, particularly the organ, which he soon played, without ever having seen the keys, in

so masterly and sweet a manner as astonished every hearer. Indeed his superiority was soon acknowledged so unanimously that by common consent of all the musicians of his time, he was publicly honoured at Venice with the laurel crown for his performance on the organ, before the King of Cyprus and the Duke of Venice, in the manner of a poet laureate."

Germany is undoubtedly the home of great musicians who were influenced by the organ. Hear Burney's account of celebrated organists in that country who flourished in the seventeenth century. "The number, size and excellence of the organs erected in the churches of Germany have been productive of great diligence and emulation in the organists, and as the passion for learned and polyphonic music was not so early discountenanced by a partiality for simple melody in the cultivation of the musical drama in this country as in Italy, the reign of harmony and fugue continued much longer uninterrupted." He mentions John Klemme, who in 1631 published thirty-six fugues for the organ, "after the manner of voluntaries"; John Jacob Froberger, who had studied under the celebrated Frescobaldi, and who was considered about the middle of the seventeenth century the greatest performer on the organ in Germany; Andreas Hammerschmidt, called "the glory of Germany"; Schein; Scheidt; Schütz, Kindermann, Scheidemann; and Reinke. "This last arrived at the great age of one hundred within a few months. In his younger days having been elected successor to the famous Scheidemann, organist of St. Katherine's Church, Hamburg, it is related that a musician of Amsterdam having said that he must be such a presumptuous man who would venture to take his place that he should like to see him. Which speech having been repeated to Reinke, he sent him one of his compositions, with the following superscription, 'this is the portrait of the audacious man you so much wish to see.' The Dutchman found so much genius and learning in the composition that he went to Hamburg purposely to hear him perform on the organ, which having done, he would have kissed his feet in testimony of the veneration with which his performance had impressed him." Burney further mentions several organists of the name of Pachabel, John Henry Buttstett, born in 1666, "a scholar of John Pachabel," and Dietrich Buxtehude, ranked by Mattheson among the greatest organists of Germany. This last name is one of great importance, as it is a link with those two giants of the eighteenth century—Bach and Handel. Both visited Lubeck to hear Buxtehude, but the visits were at different times, from different motives, and characteristic of the two men. We all know the story of Bach's fifty-mile journey on foot to hear the great man play, of his prolonged stay at Lubeck, and the influence of Buxtehude's style upon his immortal

disciple. Handel's visit was more of a business transaction. His object was to compete for the appointment about to be vacated by the Lubeck organist, and he was only deterred from going farther in the matter by the intelligence that one of the conditions of the appointment was that the successful candidate should marry the daughter of the outgoing musician. He made a precipitate retreat.

Handel and Bach both employed the organ very extensively in their compositions, but their methods differed. Handel used it as a means for filling in and general effects, usually only indicating the chords by a figured bass, and in solo passages only adding above this the melody. Bach, on the other hand, treated it with as much care and completeness as would a twentieth-century musician. Every note to be employed is fully written out, and such a thing as filling in or altering his writing is properly regarded by intelligent organists as little less than sacrilege. Bach's organ music is as voluminous as it is excellent, and in it is contained much of his most interesting, advanced and prophetic writing. It includes pieces in an infinite variety of forms, an immense number of variations on chorales, preludes and fugues, innumerable fantasias, toccatas, concertos, a canzona, and the famous set of six sonatas or trios for two manuals and pedals.

In the last volume of the "Oxford History of Music," Mr. Fuller Maitland compares the different styles of playing produced by the difference in touch of the organ and harpsichord at the period we are considering. He says: "The difference in touch may have had something to do with the difference in styles, of which we receive a very definite idea if we compare any of Handel's concertos with some of the most characteristic of Bach's solos, such as the great Fantasia in G, where the rapid passages of the opening and closing movements, and the massive grandeur of the middle one suggest a far heavier touch than is implied in Handel's passages; these do not differ very widely from harpsichord passages, their smoothness and the exact cessation of each note which they demand are totally unlike the bewildering rush of Bach's movement labelled 'très vitement,' in which a certain roughness is required and which undoubtedly loses something if played with too much refinement of detail on a modern organ with a very light touch."

I will now ask Mr. Ford to play a movement of Handel's Organ Concerto in G, and after it the Fantasia by Bach above referred to.

As the orchestra developed the organ fell into disuse. The three great classical composers Haydn, Mozart, and Beethoven practically ignored its existence; the orchestra was to them the great vehicle for musical expression, after it the

human voice and the growing pianoforte. True, Mozart has left a set of so called organ sonatas, but they are amongst his least interesting works, and in them the organ is merely used as a support for other instruments.

The organ, however, was not dead, but only dormant, and it was for Mendelssohn to be next thrown under its influence and through it to influence others. He, himself a devout student of Bach, took up, a century later, that great master's position with regard to the organ, developed its resources, and left for it immortal compositions.

Mendelssohn stood almost alone among the great ones of his day. Schubert, Schumann, and Chopin ignored the organ, and the same may be said of their successors, Wagner and Brahms, although the latter did just recognise its claims by a slight tribute in his closing days. Now, however, the organ appears to be really asserting its influence to its fullest extent. In Germany, France, and England there are composers who, while excelling in the branches of composition which have been associated with the giants of the past, yet give full attention to the organ as a real power among musical instruments. Of German writers, the names of Merkel and Rheinberger represent organ music of the highest seriousness, the set of eighteen sonatas by the latter forming a worthy continuation of the works of Bach and Mendelssohn.

Among French writers there are a goodly company of organists who, while writing in a more tuneful and popular style than tha German School, have legitimately developed the resources of the instrument. Widor stands at their head, his eight grand organ symphonies, some of extreme difficulty and intricacy, forming a monumental series of works. Saint-Saëns, Guilmant, Dubois, Salomé, Gigout, are all writers of admirable music for the instrument.

Coming to England the names of distinguished organists and organ-writers are too well known to need mention, and in no country has more attention been given to the artistic and judicious employment of the instrument in sacred music. The anthems and services now composed for the use of the English Church, in which the organ is treated as a solo instrument as well as an important accompanying force, form a school in themselves and have no exact counterpart in any other country.

The history of English music is to a very great extent the history of organists of cathedrals or great churches, and the influence of the organ all along has been without doubt both wide and real.

At the period of the Restoration the demand for new organs to replace those destroyed during the Commonwealth gave employment to the famous builders Bernard Smith and

Renatus Harris, whose work has never been excelled if it has been equalled. An idea of the public interest taken in organ-building of the time may be gathered from Burney's account of the contention for the erection of the instrument in the Temple Church. He tells us that: "About the latter end of King Charles II.'s reign, the master of the Temple and the benchers being determined to have as complete an organ erected in their church as possible, received proposals from both these eminent artists (Bernard Smith and Renatus Harris), backed by the recommendation of such an equal number of powerful friends and celebrated organists, that they were unable to determine among themselves which to employ. They therefore told the candidates if each of them would erect an organ, in different parts of the church, they would retain that which, in the greatest number of excellencies, should be allowed to deserve the preference. Smith and Harris agreeing to this proposal, in about eight or nine months, each had, with the utmost exertion of his abilities, an instrument ready for trial. Dr. Tudway living at the time, the intimate acquaintance of both, says that Blow and Purcell, then in their prime, performed on Father Smith's organ, on appropriate days and displayed its excellence; and till the other was heard, every one believed that this must be chosen.

"Harris employed M. Lulli, Organist to Queen Catherine, a very eminent master, to touch his organ, which brought it into favour; and then they continued vying with each other for near a twelvemonth.

"At length, Harris challenged Father Smith to make additional reed-stops in a given time. These were the vox-humana, cromorne, the double-courtel, or double bassoon, and some others.

"The stops which were newly invented, or at least new to English ears, gave great delight to the crowd who attended the trials; and the imitations were so exact and pleasing on both sides, that it was difficult to determine who had best succeeded. At length the decision was left to Lord Chief Justice Jeffries, afterwards King James II.'s pliant chancellor, who was of that Society, and he determined the controversy in favour of Father Smith, so that Harris' organ was taken away without loss of reputation, having so long pleased and puzzled better judges than Jeffries.

"The Honourable Roger North who was in London at the time of the contention at the Temple Church, says, in his memoirs of music, that the competition between Smith and Harris, the two best artists in Europe, was carried on with such violence by the friends of both sides that they 'were just not ruined.' Indeed, old Roseingrave assured me that the partizans for each candidate in the fury of their zeal

proceeded to the most mischievous and unwarrantable acts of hostility; and that in the night preceding the last trial of the reed stops, the friends of Harris cut the bellows of Smith's organ in such a manner that when the time came for playing upon it no wind could be conveyed into the wind-chest."

We catch a glimpse of the rivalry between these two men a few years later in an article written by Steele in the "Spectator," December 3, 1712. Steele is speaking of Harris whose ambition it was to build an organ for St. Paul's Cathedral, which task was actually entrusted to Father Smith.—"The ambition of this artificer is to erect an organ in St. Paul's Cathedral over the west door, at the entrance into the body of the church, which in art and magnificence shall transcend any work of that kind ever before invented. The proposal in perspicuous language sets forth the honour and advantage such a performance would be to the British name, as well as that it would apply the power of sounds in a manner more amazingly forcible than perhaps has yet been known, and I am sure to an end much more worthy. Had the vast sums which had been laid out in operas without skill of conduct, and to no other purpose than to suspend or vitiate our understandings, been disposed this way, we should now perhaps have an engine so formed, as to strike the minds of half a people at once, in a place of worship with a forgetfulness of present care and calamity, and a hope of endless rapture, joy, and hallelujah hereafter."

If Steele could have heard the magnificent instrument now in our great London Cathedral he would surely have been satisfied.

Before concluding, we ought to consider for a moment the position of the organ with regard to the orchestra. We have noticed that in the early days of instrumental music the organ held a very prominent place. As the orchestra developed the organ fell into the background; now it is again asserting its rights. But though the organ and the orchestra go on side by side, attempts hitherto made to combine them have met with but small success. The organ has been used with the orchestra, but it is never felt to be of it.

The organ concerto flourished in the days of Handel, then it fell into abeyance. Now the combination of the organ with orchestral instruments has been again attracting the attention of composers. Conspicuous among them, Rheinberger has written music for organ and violin, a trio for organ and strings, a concerto for organ, strings, and horns, and other combinations. The late C. A. Fisher wrote a series of symphonies for organ and orchestra in which the former was treated as an essential ingredient of the latter. But these works are exceptional. The general rule is, when

writing for the orchestra, to ignore the existence of the organ. The organ has never succeeded in establishing its position as an orchestral instrument. Enthusiasts may well inquire the reason of this and hope for a new state of things in the future. The difficulty in the composer's path is doubtless the fact that there can be no certainty as to the exact effect that will be produced by an organ passage. No two organs are alike in size, voicing, and general effect, and the composer of organ music is more dependent upon the skill and taste of the player than the writer in any other line. Much of this uncertainty could doubtless be removed by something in the way of "Standardization," though there will always be much remaining that is inherent in the nature of the instrument.

The organ is essentially an intellectual instrument; for its significance it depends upon progressions rather than upon tone quality and expression. This is apparently the reason why it has always been accepted in theory that real organ music should be in the contrapuntal style. Looked at closely the reason for this does not seem obvious, because in listening to organ tone it is more difficult to follow the progression of parts than with voices or combinations of orchestral instruments, for the reason that each orchestral instrument has its characteristic colouring, whereas the colouring of organ tone, when one manual only is in use, is unvarying.

However, whatever theory may dictate, we now have composers trying every device and resource in organ-writing, and with so many men of genius amongst us we may safely leave the working out of the matter in their hands.

The following "Illustrations" to Dr. Richardson's paper were played on the College Organ by Mr. C. E. Ford, F.R.C.O.:—

1. Prelude and Fugue in E ... ... BUXTEHUDE.
2. Fantasia in G ... ... J. S. BACH.
3. Concerto in G (First Movement) ... HANDEL
4. Prelude and Fugue in G ... ... MERKEL.

DISCUSSION.

THE CHAIRMAN.—Ladies and Gentlemen, it is our first duty to pass a vote of thanks to Dr. Madeley Richardson for his interesting paper. I am sure we have all heard it with pleasure, as we are always glad to listen to those who can speak with authority on their subjects. We must also thank Mr. Ford for the admirable illustrations he has played on the organ.

(Votes of thanks passed unanimously.)

May I point out that the organ of to-day, especially if it is furnished with electric action, is a more complicated piece of apparatus than the steam engines in a man-o'-war; moreover, while in the case of the engine a large number of persons is required to look after it to make it go, the organ (provided the wind is all right) can be controlled and operated by a single player. Dr. Richardson asked, "Is further development possible?" That question has been asked with regard to instruments of music from all time. Each man when he has improved what has gone before thinks he has arrived at perfection. Certainly when we look at the organ of to-day and compare it with the rude instruments used in very early times, it does seem as though we had pretty well reached the limits of completeness. But though I am an old organist, I cannot but say that even the organ of to day does not quite satisfy me. I believe there are others who would say the same. I think the defect, if I may so express it in a word, is that the organ is wanting in accent. You can of course get a *sforzando* by means of a combination or a swell pedal; you can by means of clever fingering and phrasing enable the hearer to imagine the accent to some extent, but you cannot get true dynamic accent. Some will say that is an acoustic impossibility, because in order to get an accent on any wind instrument a player has to increase the pressure of wind, and if this is done on the organ the note immediately jumps up to a harmonic, so that would not do. But I am not sure that mechanicians of the future may not devise some way by which the strength of the tone may be temporarily increased. Attempts in this direction have been made. There are organs with the double touch, *i.e.*, when you press the key down only a little distance you get a certain quantity of tone, but when you push it down to its full extent you obtain an increase of tone. But these instruments are terribly difficult to play. I would not advise anyone who is not used to it to attempt a recital on the double touch organ. But I would remind you that on a harmonium furnished with an "expression stop," the sound being produced by small vibrators, that these reeds obey a

different law to organ-pipes; you can get an accent on them by regulating the pressure of wind from the feet. No doubt the fact that it is contrary to the genius of the organ to play with accent has led to the characteristic difference that will be found between music written for the harmonium and that written for the organ. The capabilities of an instrument always affect its music. Dr. Richardson said that the natural home of the organ was the church, and he ventured on the suggestion that it had been more successful in Protestant than in Roman Catholic countries. I think that is true; but perhaps if the latter countries had had such a giant as Bach they might have done something more for organ music. Sir Hubert Parry, in his volume of the "Oxford History of Music," traces the orchestral music of Germany entirely to the influence of the organ. Of course we must remember that in most of the Protestant countries the people take a considerable part in the performance of the music of the churches, such as they do not in other countries. That must have some influence on the music, as where there is only a single voice to accompany, or the comparatively small number that constitute a choir, so large an organ is not wanted as where there is a body of voices singing hymns, chants, and chorales loud enough in some cases to drown the organ itself. The sketch of the early mechanism that Dr. Richardson gave us was very interesting. I do not think sufficient notice has been taken of the use of the word δάκτυλος in that famous epigram of Julian. Surely that evidently means a finger. I think that is important, because it is generally supposed that at the earliest period the organs were instruments in which the pipes were severally governed by a slider; later, when keys were introduced, these were very large and were struck by the fist. Claudian (*cir.* 400 A.D.), speaking of a player on the hydraulic organ, uses the words, "*intonat errranti digito*," which would seem to convey a similar idea, viz., that the *fingers* were employed rather than the fist. I may mention that in some Cathedral statutes that I have had to wade through, the organist is called *pulsator organorum* to quite a late period. But if the fingers were used so many centuries earlier, it opens the question as to whether the men of those days did not know and play a little more than we give them credit for. Of course, Dr. Richardson's subject has been the effect of the organ on music, but I think there is a plea to be put in for the string clavier and its effect. I cannot help believing that if Bach had not also had his clavier to write for, his organ music would not have been so free and florid as it is. My impression is that the two instruments reacted on each other. Dr. Richardson said that no efforts to increase the number of notes in the

scale had succeeded. They have not; but a great many attempts have been made, and that from a very early period. In the valuable book of Mersennus, 1611, will be found a specification as to the number of notes which would be required for a perfect scale, and the author supplies a diagram to show how a keyboard could be constructed which he considered would give something like perfect intonation. No doubt it could be constructed, but it could hardly be played on. In modern times Colonel Perronet Thompson, in his work on temperament, had thirty-eight or forty notes to the octave for his keyboard; but he could not get anybody to play it till a blind girl, Miss Stafford Northcote, came forward. I remember in Hullah's company hearing her at the Welsh Chapel in Jewin Street, Aldersgate; she played, amongst other pieces, Mendelssohn's "Wedding March," which was then rather new, and Hullah said he had never heard it sound so perfect in intonation. The Temple organ had formerly some quarter-tones, A sharp and D sharp were distinct from the B flat and E flat and had separate pipes; they remained till Dr. Hopkins went there, and then after a good deal of discussion these quarter-tones were taken away. Possibly one reason for the abolition was that equal temperament had come in, and that compromise altered the whole complexion of our modern tonal system. Is not one reason why the organ and orchestra do not go well together the fact that practically they are differently tuned? The organ, like the pianoforte, has now to be tuned to equal temperament, but in the orchestra the strings can certainly be played to absolutely just intonation, and our wind players are now sufficiently skilful to play a note a little flat or sharp when the necessity of true intonation requires it. Consequently the orchestra of to-day is almost absolutely in tune. For many years I used to attend the concerts at the Crystal Palace. After the concert was over a performance was given on the organ, at that time by Mr. J. Coward. Coming from the concert-room where one had heard the superb orchestra under the direction of dear old Dr. Manns—I am sure we are all rejoiced that he is to-day receiving his Mus. Doc. degree at Oxford, *honoris causâ* (cheers)—I must confess that when I heard the organ I wanted to run away, it seemed so terribly out of tune. People may say that the same is true of the pianoforte; but in that case the sounds are so evanescent that you do not begin to measure the intervals before they are lost, whereas in the organ they are sustained. But even on the pianoforte those who are accustomed to the perfect intonation of the orchestra are not quite satisfied. Dr. Richardson spoke of the invention of the organ or pedal point. It is a

notable invention. It was so easily managed on the organ, and such highly-coloured, magnificent harmonies were superimposed on it, that composers for the orchestra soon began to see the value of it. I think we have to thank the organ for this effect. Dr. Richardson spoke of Handel's harmony for the organ as more of the nature of filling-up than Bach's. Undoubtedly Handel's was lighter music; but I do not think I should so express my feeling about it. In the performance of the Concerto that was so excellently played to us, you cannot say there was much filling up. Handel was free in his melodies, and often liked to accompany them with simple chords; but he could give us moving counterpoint when he thought fit to do so, only his method was not Bach's. The reason why orchestral composers have neglected the organ is, I think, to be found in the suggestion I have already made, viz., that it does not mix very well. But is not the fault very often with the organist? Some register very carelessly, indeed badly. I have heard the same piece played with the orchestra by organists of different types, and the effect of the combination has been altogether different. But we are not without examples of the combination of organ with orchestra. It has been used as you all know with great success in Sullivan's "In Memoriam" Overture. No one feels that the organ is out of place in that imposing composition; on the contrary, the character of the main subject and its transfer to the organ enormously enhance the value of the whole work. I think you cannot help admitting that in this case at least the organ does combine well with the orchestra. Good effects are also obtained with the Concertos by Professor Prout and Henry Gadsby. The question of standardization is a very thorny one. If organs were standardized they would be more accessible to players, and composers would probably be more inclined to write for the instrument, because then they would know exactly what would be the effect of the music they were setting down.

Mr. PRENDERGAST.—With reference to the combination of the organ with other instruments, I may mention that in the Bodleian Library at Oxford (Music School Collection) there are two autograph volumes of music by William Lawes (1582–1645) containing among the instrumental numbers several "Fantazys" and other pieces in score for strings, which at first sight appeared to be complete in themselves; but I afterwards came across an oblong folio volume of organ music (also autograph of W. Lawes) which contains organ parts for several of the above-mentioned "Fantazys," &c., written to a considerable extent in an independent manner, and not being mere reproductions of the string parts in short score. These are probably among the earliest instrumental

pieces expressly scored for a combination of organ and other instruments. The two first-mentioned volumes are No. xxx. in the Bodleian Catalogue, and the organ volume is No. xcvii.!

Mr GOLDSCHMIDT.—If I venture to rise and say a very few words after the two lectures we have had to-night, it is merely to pay my tribute to the English organists; for knowing the Protestant service, both in Germany and Scandinavia, I think the difference of their achievements is very great. It consists in this: the English organist has a complicated service to accompany, whereas the German organist to this day has for the most part only to play the introits and concluding voluntaries and to accompany the chorales. The way in which English organists accompany the service, and especially that most difficult item of the service, the chanting of the Psalms, is hardly sufficiently recognised in the musical world. I am not a professed organist myself; but I have had the honour of being a pupil for a time of one of the greatest organists of the latter part of last century, namely, Frederick Schneider. He had a superb instrument at the great church in Dresden, one of Silbermann's four or five great organs which are the pride of Dresden. He came to England once or twice, and played at Exeter Hall. His playing at the service was a very conscientious one, but it consisted mainly in the accompaniment of chorales, and included none of those features of which English organists certainly may justly be proud.

Mr. MATTHEW.—I must just mention that it has been stated over and over again by all the books on the subject that Lulli played on one of the organs in the Temple Church. That is altogether a misapprehension. North's statement is that Baptist played on the organ. That was J. Baptist Draghi, a celebrated organist of the time. It was not Lulli, who was never in England so far as is known. The mistake has been so often repeated that it is time it was nailed to the wall.

JUNE 9, 1903

DR. W. G. McNAUGHT,

IN THE CHAIR.

THE TWO KEYS TO THE THEORY AND PRACTICE OF HARMONY.

BY FR. NIECKS.

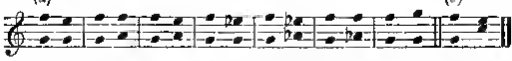
THERE is an appearance of charlatanism in the title of my paper. But do not let this mislead you into imagining that I am a dealer in nostrums. I have another request to make. Disabuse yourselves of the possible suspicion that I have pretensions to absolute originality of ideas on the subject, or a desire to combat the ideas of others. Not controversy with theorists of a different way of thinking, but a simple presentation of my own views and teaching, is the object I am aiming at. If, however, my statements—some of which are not unlikely to startle, shock, and horrify you—instil into you a little scepticism with regard to current notions, I for one shall not regret it, and think you ought not to regret it. For scepticism is a wholesome ingredient of the human mind, in fact, the leaven of thought.

It has seemed to me for a long time that the systems of teaching harmony are to a large extent unsatisfactory. The theories supplied, instead of being sound explanations drawn from objective facts, are mostly ingenious conjectures evolved out of the authors' inner consciousness, hypotheses which are unprovable, and whose proof is indeed rarely as much as attempted. If you ask for examples, the various theories of invisible roots and of limited chromaticism may be recommended to you for examination. A common procedure is to start with a number of general assumptions, and to legitimise all the following particular assumptions by a reference to these entirely arbitrary and purely fanciful principles. Another common procedure is to base theories and rules on the practice of one school of composition, on the style of one composer, on the taste and habitude of one individual. Thus it happens that a system which agrees excellently well with Mozart, causes some trouble with Beethoven, requires a great deal of stretching with Schumann, and completely breaks down with Wagner.

In framing a system of harmony the chief aim should be universal applicability. This can only be attained by strict rejection of the fictitious, and firm adherence to the natural.

In short, it is necessary to go back to real principles. I found my system on two laws: The Law of Dissonance, a physical law, and the Law of Tonality, a psychical law. These two laws are what I call the keys to the theory and practice of harmony. The law of dissonance is the primordial, elementary, lower law; the law of tonality, the later, gradually developed, higher law. The higher law does not supersede the lower, but superimposes itself on it. In other words, the law of tonality puts an impress of its own on the various manifestations of the ever-valid law of dissonance, and gives new and distinct meanings to them.

Little need be said on the law of dissonance. It is the outcome of the physical discomfort or even pain, with its psychical concomitants, irritation and restlessness, experienced by us when we hear a dissonance. The law of dissonance may be formulated thus: Every dissonance must be followed by a neighbouring consonance, must be, technically speaking, resolved (*a*). Apparent exceptions, where one of the notes forming a dissonance takes a leap instead of proceeding by a degree or remaining stationary, imply omissions and substitutions, which, habituated as we are to the second law, we mentally, but unconsciously, supply (*b*). Here we have an instance of an increase of the resolutions possible under the law of dissonance by the action of the law of tonality. It would lead us too far off the road we have to travel were I to enter on a disquisition as to the extent to which the law of tonality, with its tones of distinct tendencies, limits the resolutions possible under the law of dissonance—for instance, those of diminished and augmented intervals.

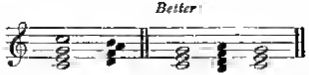


On the Law of Tonality I cannot be so brief. This law is to be found in all music whose material consists of a regulated series of sounds, that is, in music of all degrees of artistic development. But in the different stages of art-music tonality presents itself in many degrees of development. It is more highly developed in harmonic than in purely melodic music, and more highly developed in modern harmonic music (from the seventeenth century onwards) than in the older harmonic music based on the ecclesiastical modes. In the most modern music there are signs of a reaction against the law of tonality. But does any success this reaction may boast not presuppose a strong feeling of tonality? Chaos may be welcomed by some as a pleasing change from the monotony of order. But if chaos were to take the place of order for

good, not merely incidentally, it is much to be doubted whether even the extremest revolutionists would long remain satisfied with the new *régime*. For after all is not tonality the fundamental law of music? Is it not the centripetal force which holds together the parts and particles of musical compositions, large and small? Tonality may be defined as The relation of the notes of the scale to each other. Such as it exists in our essentially harmonic music, it may, however, be better defined as. The predominance of the tonic note and the tonic chord over the other notes and chords We may also say: Tonality consists in the difference of character possessed by the different tones of the scale,—consists in their different degrees of restfulness or restlessness, and their consequent tendencies *

The 1st, the 3rd, and the 5th degree, the notes of the tonic triad, are the elements of rest of the diatonic scales, which we may also call the positive elements. The other degrees, the 2nd, the 4th, the 6th, and the 7th, are the elements of unrest, or movement, which we may also call the negative elements.

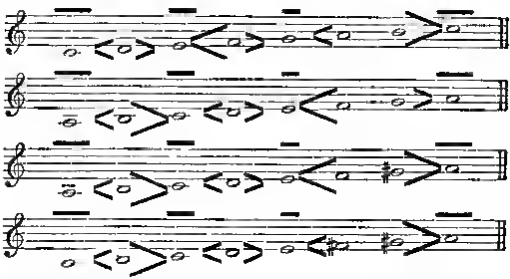
Better



The measure of restfulness of the three positive elements, however, is not the same; nor is the measure of movement of the four negative elements. Perfect rest is to be found only in the tonic. The mediant and dominant have less perfect rest. On the other hand, the greatest unrest, the most vigorous movement, is to be found where a note at the distance of a semitone leads up or down to a note of rest—for instance, in major from the 7th to the 8th degree, and from the 4th to the 3rd degree. Both these notes are leading notes, but the former is the principal leading note, the leading note *par excellence*, and we call it thus because it leads to the principal note of the scale, the tonic, the most perfect point of rest; and we further call it thus because, leading as it does to the principal point of rest, it strains more vigorously than the other leading note. Where the negative element is at the distance of a tone from the adjacent positive element the unrest is less great and the movement less strenuous. Mark that the 2nd and the 4th degree have a note of rest on each side, and the 6th and the 7th degree only on one side Diagrams with the different degrees of rest and unrest indicated by signs will illustrate

* I leave out of consideration that extended tonality which manifests itself by the predominance of a principal key

what I have described, as in this way the state of matters can be seen at a glance. A horizontal line indicates rest, a wedge, movement. The size of the signs corresponds to the measure of the rest and movement :—

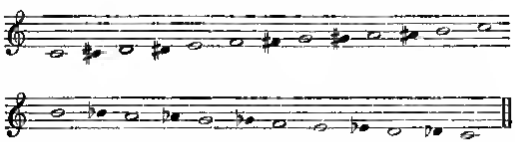


With regard to the minor scale, it may not be superfluous to say that the old form, the form preserved in the descending melodic minor scale, is still the fundamental form of our minor scale, the raised 7th degree of the harmonic form, and the raised 6th and 7th of the ascending melodic form being really chromatic modifications for harmonic and melodic purposes. The harmonic purpose might also be called a tonal purpose, for by the sharpening of the 7th degree a leading note to the tonic is obtained, whereby the negation of the position (the tonic) is emphasised, and the effect of the asserted position heightened. The name "harmonic" as applied to one of the forms of the minor scale is a misapplication, for that form does not give us the whole harmonic content of the minor mode, which comprehends the unraised as well as the raised 7th degree.

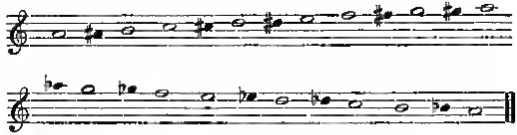
Thus far I have treated of the diatonic scales. The chromatic scale is not a scale in the same sense it is not an independent scale, not a third mode added to the major and minor modes, but simply a melodic development of the diatonic scales. In introducing chromatic notes into the diatonic modes we introduce new notes of unrest, new notes of movement. The nature of chromatic notes cannot be better described than by calling them artificial leading notes to the next degree upward or downward. If we sharpen *c* we get a leading note up to *d*. The second degree we can flatten and sharpen, *d*♭ leading down to *c*, *d*♯ up to *e* ; and so on. In the direction where there is a semitone we cannot of course introduce a chromatic note leading to a diatonic note,

for instance, in C major no $c\flat$, $f\flat$, $c\sharp$, and $b\sharp$. But we could introduce such chromatic notes if we wished to go to another chromatic note or to a note in another key; for instance, from e to $b\flat$ by way of $c\flat$.

The logical notation of the chromatised C major scale would consequently be thus:—



And the logical notation of the chromatised A minor scale —we have to take the old form as the basis—would be thus:—



As you see, sharpening accidentals are consistently made use of in the ascending scale, and flattening accidentals in the descending scale.

Of course every one who reads music observantly knows that composers are not systematic in their notation of chromatic notes, but write them mostly as it serves their own or the executants' momentary convenience; often also they write them negligently and ignorantly. In scores we meet frequently with cases where a chromatic passage in one part is written in one way and in another part in another way. However, these notational diversities in practice, which prove nothing as to the real nature of the notes, do not concern us here. It is otherwise with the teaching of the theorists who tell us that the content of a key includes certain chromatic notes and excludes others. For instance, Day's and his followers' chromatised C major scale has no $e\sharp$, $d\sharp$, $g\flat$, $g\sharp$, and $a\sharp$. He gives reasons, but not satisfactory ones. You must agree with his conclusions if you can grant his premises, which, however, is impossible. Such a system of chromaticism is not a key to the harmonic treasury of Schumann, Chopin, Wagner, and the most modern composers generally. If you nevertheless insist on applying

a system of this kind to the music of these masters, you are driven to twist, turn, distort, and denaturalise the facts, and obscure instead of elucidating them. I venture to assert emphatically and without the slightest hesitation that the theory of limited chromaticism and the practice of the modern composers are irreconcilable.

The tonal tendencies we have observed in the scales, that is in melody, remain the same in harmony, that is in the simultaneous combination of two or more degrees of a scale. Chords may be compounded of notes of different measures of rest, or of notes of movement, or of a mixture of notes of rest and of movement. Harmony understood thus, in the sense of simultaneous combination of melody notes with various tonal tendencies, furnishes us with explanations of most harmonic phenomena. This view of the matter saves us from the necessity of having recourse to systems founded on roots and on derivation from the harmonic series; nay, it even altogether excludes such systems. Indeed, the root and derivation theories are artificial edifices based on unjustifiable assumptions, and constructed out of more or less ingenious inferences drawn from them. Admire the beauty of these fantastic fabrics if you like, but do not expect that they will be of any practical use to you. Instead of being a help, these theories are a hindrance to the right understanding of the problems in question, instead of removing actual difficulties, they create new imaginary ones. The fact is, we cannot see clear in the matter until we have divested ourselves of the notion that chords are entities given us ready-made by nature. Nature has given us nothing of the kind. What else is it but mere sport to slice the chords out of towering formations of seven superimposed thirds springing from two or three roots, monsters such as have never been seen on land or sea? Nor is it anything more serious than sport to pick the notes required for the chords out of that abounding storehouse the harmonic series. And why? Because the harmonic series is a simultaneously sounding multitude of tones which in their totality neither stand, artistically speaking, in harmonic relation to each other, nor form, when heard together with equal distinctness, a satisfactory whole, and from which, if being in tune is not an indispensable condition, the tones of all the harmonies in use may be collected and yet an unusable residue left. The pretention that by such theories a natural or scientific basis is given to harmony is an illusion that cannot fail to be the wonder and derision of future generations, if it is not already of the present. If we approach the matter unprejudiced, we need no more than common sense to recognise the baselessness of these theories as to fundamental facts, and the illogicalness of their developments.

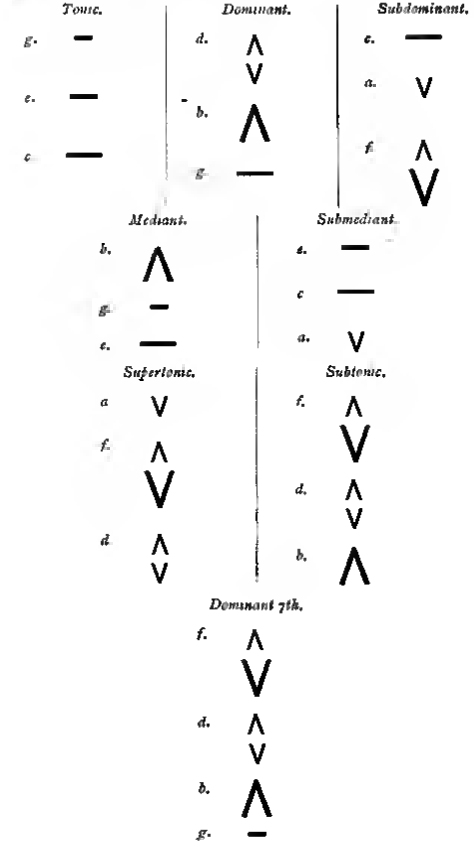
What I preach is the abandonment of these wooden idols devoid of living divinity.

Well, then, it may be convenient to speak of triads, of chords of the 7th, and perhaps also of chords of the 9th,—whether it be convenient to speak of chords of the 11th and 13th is another question—but it is necessary that we should understand that triads, chords of the 7th, &c., are not matter-born but mind-born entities. I repeat, chords are neither more nor less than simultaneous combinations of notes of a scale, notes of various characters and tendencies which combined produce harmonies of different characters and tendencies. The characters and tendencies of the constituents determine the character and tendency of the whole combination. The greater the number and strenuousness of the negative elements of the scale in a chord, the greater is the measure of its unrest and movement. The measure of rest, on the other hand, depends upon the position of the positive elements. As the tonic note expresses perfect rest, and the mediant and dominant imperfect rest, so the tonic chord with the tonic in the lowest and in the highest part expresses perfect rest, and the same chord with any other note in one of the extreme parts, imperfect rest.

What has more especially to be noted is this: Outside tonality, that is as individuals standing by themselves, all consonant chords are chords of rest, and only dissonant chords are chords of unrest; whereas within the partnership of tonality only a single consonant chord, the tonic triad, is a chord of rest and has self-sufficiency, and all the other chords, the consonant as well as the dissonant, are chords of unrest and lack self-sufficiency. Hence it comes that the same consonant notes form at one time a chord of rest and at other times a chord of unrest. Thus *c*, *e*, *g* would be in C major a chord of rest, but in G major, F major, E minor, and A minor, and as a chromatic chord a chord of unrest. This fact is forgotten or not properly appreciated by those theorists who deal in borrowed chords. If we proceed from the chord of the dominant in G major to the chord of the tonic of that key, we proceed from unrest to rest; if we proceed from the chord of the supertonic with raised third in C major to the chord of the dominant of that key, we proceed from unrest to unrest. Although the notes are in both cases the same, the effect is different. I spoke a moment ago of consonant and dissonant chords of unrest. It may not be useless to note the difference: The non-tonic consonant triads have only the unrest derived from the negative tonal elements, the dissonant chords have in the dissonance, or dissonances, an additional element.

The constitution and conditions of chords can be strikingly brought before us by means of the signs I make use of in

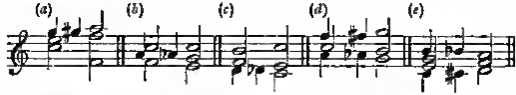
connection with the diatonic scales, but which are equally applicable to chromatic notes. First I shall tabulate the triads of the major mode:—



The marking of the first five chords does not stand in need of comment. With regard to the others I shall confine myself to the following two points: (1) the larger of two wedges indicates always the stronger tendency and more natural drift; and (2) where there are two wedges they may not be applicable to the same circumstances (for instance, *d* V in supertonic chord and *f* Λ in subtonic chord and chord of the dominant 7th, not with fundamental in bass). It will of course be understood that the movement marks show the bearings of the notes in question upon the notes of the tonic chord. That composers often baulk the natural tendencies of the notes, at least temporarily, that every non-tonic chord is not always followed by the tonic chord, is a fact that does not require pointing out. Music would not be an art, still less the piquant and expressive art it is, were it otherwise. The state of matters harmonic may be strikingly and truthfully pictured by a comparison of tonality to the solar system. The tonic chord is the sun. What revolves around it may be single stars or groups of stars with subordinate centres of their own. If we look upon our harmonic system as a deviating from, and a direct or indirect tending towards, the elements of this central chord, every combination, be it ever so strange and complicated, will become intelligible.

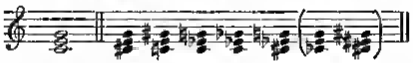
A chromatic chord is a diatonic chord one note or more notes of which have been chromatically altered, that is raised or flattened a semitone. This way of putting the matter acts upon some theorists as a red rag on a bull. The word "altered" is the red rag. The alterationists are told by their opponents that it is foolish to speak of $c\sharp$ as an altered *c*, that the two notes, although bearing the same name, are acoustically as distinct as *c* and *b* and *c* and *f*. No doubt they are. But what reasonable person ever denied it? The alterationists do not teach this, and their theory does not imply it. But whilst the opponents impute to them something not in the alterationist's mind, they overlook something that really is there. It is this: That you can alter, modify, a degree in a scale of notes making up a tonality. If you alter *f* into $f\sharp$ in **C** major, the altered *f* remains still the fourth degree. So, to ease the situation, the definition might perhaps be formulated thus: A chromatic note is a modified diatonic degree, and a chromatic chord one which contains one or more such degrees. The misunderstanding has seemed to me always one of the most curious and striking examples of the strange misconceptions and suspicions to which prejudice may lead. The misunderstanding is so much the more curious as the alterations of the 6th and 7th degrees of the diatonic minor mode might have served as a warning.

Observation cannot but show the correctness of viewing chromatic chords as altered diatonic chords—as chords in which one, two or more degrees of the diatonic scale have been modified. Indeed, it is difficult to imagine that conviction should fail to come to anyone who sees, as may be seen in the following examples, chromatic chords in the making:—

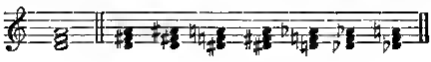


The chromatic notes here reveal their diatonic and melodic origin unmistakably, and prove themselves leading notes, notes straining towards the degree immediately below or above them. These straining notes are either new notes of unrest or emphasised old ones. In the highest part of the first and the lowest part of the last of the above examples, the chromatic notes produce a change from rest to unrest, all the other chromatic notes bring about an increase of unrest, of strain.

A system of harmony that in the twentieth century recognises only a limited number of chromatic chords in a key is nearly a century behind the times, and falls lamentably short of the practice of the present-day composers. To be duly comprehensive we have to say that every diatonic chord may be in several ways chromatically altered. For instance, the tonic triad in C major, thus:—



By means of the straining chromatic notes a strong drift is produced towards harmonies of which the notes thus reached form constituents—for instance, the supertonic or the dominant harmony by the first chord; the subdominant or submediant by the second; the dominant or chromatic supertonic (*c*, *d*, *f*♯) by the third; the subtonic (*d*, *f*, *b* after first inversion) or supertonic (triad or chord of 7th) by the fourth; and the supertonic or dominant by the fifth. The usual, although not the only, form of the last of these chromatic chords is of course the first inversion. The two chords in parentheses are given as chromatic chords leading to chromatic chords of the same key, or to diatonic chords of other keys:—

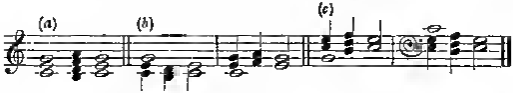


Here the first two chromatic chords tend towards the dominant harmony; the third to the tonic, subdominant, and mediant; the fourth towards the mediant and submediant, the last but two to the tonic or dominant, the last but one towards the tonic, and the last towards the subdominant. Where the different forms of a chord are not equally natural and effective, the preferable one (perhaps a first inversion) is easily discoverable.

We need not pursue this inquiry farther. For the chromatic modifications of the other diatonic triads, and of the chords of the 7th, &c., would be but repetitions of the processes illustrated by the chromatic modifications of the tonic and supertonic triads. It is equally superfluous to point out that even in so far as I have given illustrations, exhaustiveness has not been attempted.

The view here set forth of chromatic chords seems to me to give a simple and rational theory of them, a theory based not on mere assumptions, but on obvious and palpable facts, namely, dissonant and tonal tendencies. Moreover, the theory is—what other theories are not—sufficient to comprehend with ease every imaginable chord of the kind, even those that have caused the greatest trouble—for instance, the chords of the augmented 6th (*a♭—c—f♯*; *a♭—c—e♭—f♯*; &c.). The attempts to account for these chords otherwise have not been a success. One cannot help thinking it a contradiction in terms and a confusion of ideas when theorists speak of chromatic chords and derive them from diatonic chords of other keys. Are not the characteristics of chromatic chords that they are not diatonic and yet belong to the key in which they are used? The most irrational proposal made, however, is the derivation of certain chromatic chords from two keys. This is a musical mystery, a mystery of duality, of two in one, for which unreasoning faith is indispensable, a demand that ought not to be made outside theology. Then there is the search for roots, the endeavour to discover independent origins of the chords. Unfortunately the searchers are not aware that the roots they find are only in their imagination. Apart from tonality there can of course be no question of roots, and in tonality the only fundamental realities are the positive and negative elements, the elements of rest and unrest. The theory of invisible roots reminds me of the beautiful arrangement of putting the cart before the horse. We are often told that the chord *b*, *d*, *f*, *a* is a chord of the 9th, and *b*, *d*, *f* a chord of the 7th with the fundamental note left out. It would be more correct to say that *g*, *b*, *d*, *f*, *a* was a chord of the 7th, and *g*, *b*, *d*, *f* a triad with a fundamental note added. The relationship of these chords comes not from a common, not actually present root, but

from the common, actually present constituents (*b*, *d*, *f*) that claim the same resolution. The dominant chord is regarded as the foundation chord of the group because it occurs most frequently; it occurs most frequently because it is the most important of them; and it is the most important because it comprises in its constitution in addition to negative elements one positive element. From this link, which connects it with the tonic harmony, the chord of the dominant 7th derives its superiority over the two other chords. The 5th of the tonic chord is here the hinge on which the door constructed out of negative elements swings. It would be possible to build on the hinging on the extremes of the tonic triad a pretty theory. Illustration (*a*) shows us the pure contrast of positive and negative elements; (*b*) the hinging of two negative elements to the extremes of the positive elements, by which the dominant and subdominant triads are obtained; and (*c*) the extension of the same process, by which the chords of the subtonic and dominant 7th and the supertonic triad and chord of the 7th are obtained:—



Interesting conclusions could be drawn from such premises; but this example of a theory is not brought forward as a proposal. If we wish the truth and nothing but the truth, we must look for that in illustration (*a*). What induced theorists to adopt the doctrine of roots was the similarity of function, or rather of tendency, which certain groups of chords exhibited; for instance, the dominant group (bearing on the tonic harmony), the tonic group (bearing on the subdominant), and the supertonic group (bearing on the dominant). This view of matters harmonic, however, has no objective reality, it is the outcome of the mind's love of order and system, a love that often rests satisfied with something artificial. In my opinion no good, and much evil, comes from the theories of roots. To confine ourselves to the actually present is both simpler and more in accordance with truth.

Another unnecessary difficulty arises from the insistence with which many theorists regard every simultaneous combination of notes as an independent chord. If they took a horizontal as well as a vertical view, they would discover that not a few combinations, especially in modern music, can only be rightly understood in relation to what follows, or what precedes and follows. Before calling harmonic combinations chords of the 11th and 13th, and

attributing to them extraordinary roots and derivations, we should submit them to real analysis, and separate the inessential from the essential, the non-harmonic from the harmonic, and the appoggiaturas, anticipations, pedals, &c., from the chord notes. Nay, often we must altogether refuse an independent existence to harmonic combinations, and simply regard them as dependents on their neighbours. In this way much light can be thrown on obscurities, and many complexities can be unravelled.

The laws of dissonance and tonality teach us much in theory and in practice, in little and in great things, even in æsthetics and in acoustics. If we know their spirit as well as their letter, they prove themselves excellent guides in part-writing, enabling us among other things to solve all problems of resolution. They help us to explain the discrepancy between the theorist's rules and the composer's practice in the matter of doubling chord constituents, by showing us that the usual rules deal with individual harmonies, not with progressions of harmonies; that what applies to things at rest cannot have the same validity in the case of things in motion: and that what in another state does not please, may yet be acceptable in transition. Through the law of tonality we get also a wonderful insight into closes. It reveals to us at once the senses of their different expression—the difference of the full and the half close, the differences of the perfect full close and the forms of the imperfect full close, and so on. That the laws of dissonance and tonality have anything to do with the much-discussed question of intonation may have escaped many. Equal temperament, that necessary evil where instruments with fixed tones are concerned, need not be considered by us. But what about the other two intonations that are made use of in our music—just intonation, and what we may call free melodic intonation? The latter, which scientists ignore or condemn, but which singers and players, except those of instruments with fixed tones, make use of, is a system in which the intonation is determined not mechanically as in equal temperament, and not wholly by the harmonic proportions of intervals as in just intonation, but partly by these proportions and partly by the melodic tendencies of the notes. This free melodic intonation, this irregular improvised temperament, plays an increasingly important part in our increasingly chromatic and impassioned music. In fact, one may say without exaggeration that in modern music there is hardly anything in tune except the tonic chord. Where there is rest, justness of intonation is imperative, at any rate the reverse is painfully felt; where there is motion our attention is drawn from what *is* to what is *to be*, and just intonation is of secondary importance. This enables us to sacrifice without regret physical euphony to psychical expression.

These are a few outlooks. As it is not my intention to lay before you a whole system of harmony, I shall now draw my remarks to a conclusion. My object was to point out the importance of two laws that form the true foundations of music. We may learn from them the great and pregnant truth that harmony is not a putting together of inanimate blocks, but a weaving and interweaving of living tendencies. In short, harmony is a study of dynamics rather than of statics.

DISCUSSION.

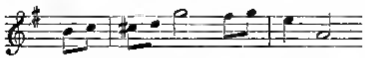
THE CHAIRMAN.—Ladies and Gentlemen, it is my duty and pleasure to ask you to pass a hearty vote of thanks to our lecturer.

(Vote of thanks passed unanimously.)

The subject is one that has frequently been discussed in this assembly. I am glad to find that Professor Niecks comes to the conclusion that there is really no natural theoretical basis of harmony. I was brought up by Professor Macfarren on the system of the derivation of chords from generators, but I never believed in it. I must confess, however, that in the prevailing chaos of rules and exceptions the Day theory made some things clear to me, and I think I may say I found it easy to work—easier, I fancy, than I should find the system set forth by Professor Niecks. Another thing I should like to say is that I am delighted to find that Professor Niecks preaches doctrines that I have been preaching all my life with regard to the mental effect of the tones of the scale, doctrines which are in accordance with the tonic sol-fa system. As to this altered chord system, I must say that I have never been an alterationist. I cannot see there is much science in regarding a chord in which all the notes differ from those of the chord of C as being really an altered form of the chord of C. It seems to me that this is inviting the chaos which Professor Niecks seemed to deprecate, and may lead to a too free-and-easy treatment of chords. What one may do with the chords when we have made these "alterations" is not clear.

Mr. GODDARD.—I do not feel in a position to say much on the very learned address we have listened to. I did not distinctly hear it all, but as regards the point just referred to—altered notes—it has often occurred to me that what are called chromatic alterations are really to be regarded thus. Each note of the scale is liable to chromatic alteration in two ways; that is to say, a composer has two courses open to him. In a piece in C, for instance, he may treat the note

C sharp as an essential note of another scale, or as having nothing to do with any other scale, but as altering the expression of the C. I think this double function is an important source of the great expressiveness of music. That has often occurred to me as one way of looking at the sources of our system, namely, that each note of the scale is hedged in above and below by a sound a semitone away, each capable of becoming an essential note of another scale or a chromatic addition to the old scale, as in the following example—



Here the effect of the C sharp (on which the whole beauty of the strain hangs) is felt in its relation to the tonality of G—not D or A, so that two views might be reconciled. As regards the lecture generally, I must say I agree with nearly all that I have heard, and particularly with the reference to the assumed root of chords. I think nothing is more unscientific than the view that there should be such things as roots that are neither part of the effect of a chord nor its origin historically. I also sympathise with the view that a chord is not necessarily an ultimate thing. How chords came into existence we know. The common chord was known I do not know how many thousands of years back; I daresay among the ancient Greeks and Romans. The earliest composers knew the common chord. We find it in the earliest attempts at Harmony—where harmony was not achieved, but merely attempted. As it was found that the common chord gave a single note a more ample effect, it was thought perhaps that if you applied the common chord to a succession of notes it would give a more ample effect to the whole. That was attempted as in *Organum* and *Faux Bourdon*, and the attempt from the point of view of our conception of harmony certainly failed. It was not until the practice of polyphony that harmony begun to be unfolded, and the reason was that harmony could not be unfolded except as part of melody. The ideal effect of harmony is where the ear hears the parts in motion as well as in combination; and it was found, in attempting to put whole melodies together, that at certain points certain fine effects were heard in the *rencontres* of moving parts. It was only in this way that harmony could be developed. In the compositions of, say, Festa or Carissimi, you will find that out of six chords five perhaps are in the first position; the bass, in perhaps five cases out of six, will be the root of the chord. That is the principal cause of the stiffness and formality in the effect of the music of

these and other composers of the time. They evidently had not arrived at the power of using chords in the different positions. This power could only be arrived at gradually as the outcome of the taste and practice of musicians. Of course it is a convincing proof that a theory of music based upon the chord of natura cannot be true, because the chord of nature forms itself on every single note of a composition that is heard, so on this principle the harmony would be the same in every case. As we know, in practical harmony the variety of chords causes the charm. The procedure by which harmony was historically unfolded—of getting at harmony through melody by putting melodies together, not by building-up harmony note by note—I think accounts for some of the fine effects of Wagner, and also of Chopin. As regards the latter, not only are melody and accompaniment so to say thrown together as wholes, but the accompaniment itself is particularly free and unconventional. Thus at certain points peculiarly subtle and beautiful effects occur; and this I think is one of the reasons of the lasting freshness of this composer. The conclusion I wish these remarks to point to is that harmony is an æsthetic matter. It comes from the mind, and has to be arrived at in the practice of music. It is not a science; therefore in the effect of a chord everything depends on the circumstances of the case. Even the different positions of chords — first position, second position, third position, and so on—are musically totally different effects. No two concordant effects could be more different than those of the common chord in the fundamental position and the second inversion; the two effects are actually different, though we call them different positions of the same chord for the sake of classification. It should I think be borne in mind that these different positions are simply a mode of classification suggested by the unity in the elements of the different effects. So it is with harmony; the different chords are means of classification, not effects. As the lecturer shows, the chord B D F has much in common with the chord G B D F; in fact it preceded the unfolding of the latter (the chord of the 7th having unfolded gradually), but still these are different effects. There is no such thing in a musical composition as an incomplete chord; the term refers purely to classification. All this I think proves, as the lecturer seemed to imply, that harmony is not a fixed thing, though certain well-marked general effects—as, for instance, those of unrest and rest, to which the lecturer alluded—undoubtedly exist. I think the lecture is extremely instructive.

Mr. Shedlock.—Professor Niecks spoke, I think, about there being no chord in nature, but a series of simultaneous sounds. That is true, but some sounds are more prominent

than others. If you take the note C, the E and the G can be heard clearly, also the 7th with a little more attention, and the 9th, and even beyond. I think man may probably improve on nature, but I think there is a beginning there. Then there is one other point with respect to the law of tonality. If I understand Professor Niecks rightly, he starts with the scale as we now use it in its major and minor modes. But then the scale itself was a matter of growth. There are earlier scales; there was the Greek scale of four notes, then of seven notes, and then the octave. So it seems to me that the scale is at the present moment growing in another direction — the chromatic direction. Professor Niecks objects to a limited scale, but it was more limited perhaps a hundred years ago. It is now getting less so, and as new generations arise it will grow and become freer and larger.

Mr. Goldschmidt.—I think we have heard a very interesting paper. There was one thing however that I was personally sorry to miss; I mean the mention of the great teacher of harmony at Leipzig, Moritz Hauptmann. I studied harmony with him for three years, and I must say he based it very much on mathematics. He never gave a lesson without illustrating his theories by figures. I suppose Professor Niecks is quite aware of that. I will not detain you for a moment longer at this hour, but I should like with your leave just to say that it is an immense comfort to hear Professor Niecks divide harmony into *rest* and *unrest*, and I only hope that the next century will bring others a little more rest than the unrest of the present.

Dr. Maclean.—Since sitting here I have been thinking that something ought to be said against too much destructiveness in this matter. As to the poor old root-theory, no one has thrown more sticks at that Aunt Sally than I have. The homœopathic doctor Day, and the other really ridiculous people who followed him, have brought the matter into contempt. Having no scientific or philosophical training, and run away with by the sound of a word, they have imported into the question ideas of *causation* and *origin* which have no meaning in the science of thought. For all that, in the present state of our knowledge the "root" notion does stand for something which is a fact, though imperfectly understood and certainly not yet defined. As long as you call the $\frac{6}{4}$ and $\frac{6}{3}$, "inversions" of the common chord (and I did not understand that even the lecturer dispensed with this), you must admit that a root-notion is present. Furthermore why is it that what we call the bottom note, *i.e*, the note of slowest vibration, among a chord of notes, always gives the entire character to the combination then present? Here again is a root-idea, or quasi root-idea, even

if we do not quite understand it. These are only partial phenomena, but, as Mr. Shedlock I think observed, they are something. And even Day's whims have had their use, in forming a means of practical classification. Then again as to the "harmonic chord" question, otherwise upper partials; I think Mr. Shedlock said that here too we should not be above starting in a way from nature in our art. Unscientific ideas as to causation have prevailed even more here than in the matter of "roots." A Ewing lecturer at Anderson's College, Glasgow, Colin Brown, quite of late and not long before his death, gravely "derived" our diatonic scale by picking out consecutively (5 octaves high up) the 24th, 27th, 30th, 32nd, 36th, 40th, and 48th upper partial-notes of a prime note. Than this, absurdity could go no farther. To call this partial-note phenomenon the *basis* and *origin* of our harmony, is a condition of thought which confuses an extremely limited analogy with a cause. As I have said elsewhere, a cabbage might as well be called the basis of a rose-tree, because both grow in the ground. In spite of all this the analogy of a natural phenomenon is something, however small, and the fact that the predominant notes in the concomitant "partials" are just the same as the notes of the common chord which the lecturer was obliged to posit as the main framework of his own theory, is at least a sign-post towards correct analysis and thought,—a correctness which we have not as yet attained. I was glad to note that while the lecturer knocked down the two bogies, or quasi-bogies, of root-origin and harmonic-chord-origin, he left untouched the question of mathematical ratios; because, however much they may now elude us, these are indisputably the basis of whatever science there may lie in the future for the facts of practical harmony. At the back of all empiricism (and the results of the lecture were confessedly empiric), and even at the back of all æstheticism such as that touched on by the gentleman on my left, there must be law; and all law is, in the last resort, expressible by mathematics. I think this was somewhat Mr. Goldschmidt's point. Perhaps in the 21st century of which he spoke, some very clever person may discover a new Calculus which will serve as the scientific abstract background of the practical composer's work. Do not let us be robbed then at one stroke of all our faith. There is some element of truth even in the partial abstractions and concepts which have hitherto been arrived at in this connection.

Professor Niecks.—At this late hour I have only to say one sentence, and that is that the best thing we can do after having expressed our various opinions is to go home and meditate on the opinions of our opponents.

Addendum.

Professor Niecks sends the following supplement to the discussion on his paper:—

Perhaps I may be allowed to add in writing a few words of reply, which want of time prevented me from making orally at the meeting.

As Dr. McNaught agrees with me in the main after hearing me read my paper, I confidently hope that his partial agreement will become a complete agreement when, on seeing the paper in print, he will have a better opportunity of fully appreciating the force of my facts and arguments, and of familiarising himself with unfamiliar views. In fact, I do not see how it is possible to accept the doctrine of tonal tendencies, and to reject the doctrine of temporary degree modification, which is only a development of the former original doctrine. Nor do I see how those who admit without demur the alteration of certain degrees of the minor scale can regard the idea of any other alteration of degrees of a scale as unreasonable or unscientific.

It seems to me that Mr. Shedlock's remarks on the harmonic series support my view of the origin of harmony, not his own. He says: "If you take the note C, the E and the G can be heard clearly, also the 7th with a little more attention, and the 9th, and even beyond." True. But note that along with the 3rd and 5th the 7th and 9th can be heard. And then, if the matter is so very obvious, why did it take so long to discover the phenomenon of partial tones; and how is it that harmony existed before the discovery; and lastly, which was the principle that guided the early harmonists in choosing the lower notes forming the major common chord and avoiding the 7th and 9th? The history of harmony shows unmistakably that chords were found by experimenting with intervals, and by selecting for combination the most pleasing. If man had got harmony ready-made from Nature, it would have had a different history and would be universal.

Mr. Shedlock's remarks about scales do not in the least militate against anything I have said. With the early developments of scales I had nothing to do, and the later developments in so far as they concerned me were alluded to; for instance, the chromatic development in the 19th century.

Two of the speakers adverted to the connection of mathematics with music. On this point I shall make only two remarks: (1) In a *practical* theory of harmony there is no room for mathematics, which could only obstruct and obscure, not facilitate or elucidate; (2) The tendencies of modern music are increasingly anti-mathematical, owing to

the variability of its harmonic proportions. To realise this variability and the consequent difficulty of mathematical determination, we have, in addition to the complexity of our music, to keep in mind that besides just intonation there are two other intonations in use—equal temperament and free melodic intonation; that enharmonic changes, as well as instruments with fixed tones, require equal temperament, and that the free melodic intonation leaves nowadays hardly anything in tune, according to just intonation, but the tonic chord. It is also necessary to remember that the mathematical treatment of music never goes very far; and that the mathematicians lay down laws for the practice of the art, instead of deriving them from it—which, no doubt, simplifies their task, but also makes it unprofitable.

[A Correction.—The reader is requested to correct a misquotation on p. 210, Twenty-seventh Session (1900-1901) of the Proceedings of the Musical Association. The third musical illustration was not given as an example of a transition to G.—F. N.]

APPENDIX.

List of Contents for the last four years of the publications of the International Musical Society.

[E = English, F. = French, G. = German, I = Italian.]

ZEITSCHRIFT (Monthly Journal).

In addition to the Leading Articles specified below, each number of the ZEITSCHRIFT (about eighty pages royal 8vo) contains information, written either in German English, French, or Italian, according to source of origin, under the following heads —(*a*) Music reports from various countries, by Special Correspondents, (*b*) News about Lectures, (*c*) News connected with Academical Institutions, (*d*) Occasional Notes, (*e*) Reviews of all important Books on Music appearing throughout the world, (*f*) Reviews on Music, (*g*) Catalogue of all important Articles appearing in the Musical Press throughout the world, about 200 monthly, (*h*) Record of Booksellers' Catalogues, (*i*) Queries and Answers among members, (*j*) Comments on previous articles by members (*k*) Official proceedings of Branches

FIRST YEAR.

PARTS 1-2 OCTOBER—NOVEMBER, 1899

Introductory (G.)—O. Fleischer (Berlin)
Music in England (E.)—C. Maclean (London)
Bayreuth 1899 Festspiele (G.)—W. Kleefeld (Berlin)
The Morsius Album (G.)—M. Seiffert (Berlin)
An old Lute-book (G.)—J. Wolf (Berlin)

PART 3. DECEMBER, 1899

Can the remains of ancient Greek music be now performed? (G.)—O. Fleischer (Berlin).
Musical life in Russia (G.)—N. Findeisen (Petersburg)
Tristan at the Nouveau Théâtre (F.)—L. Dauriac (Paris).
Review of Dechevrens' 'Etudes de science musicale' (F.)—M. Lussy (Paris).

PART 4 JANUARY, 1900

Vocal teaching in the higher schools (G.)—E. Boehm (Berlin)
First complete List of Members

PART 5. FEBRUARY, 1900

Concert-music for the Concert-room (G.)—O. G. Sonneck (New York)
The editions of collected works of Handel and Bach (G.)—M. Seiffert (Berlin).
The text of Braga's Serenata (G.)—J. Bolte (Berlin)
Mozart's "Freimaurer-Gesellenlied" (G.)—E. Vaupèl (Vienna)

PART 6. MARCH, 1900

Letter from Florence (I.)—E. del Valle de Paz (Florence)
Music in England (E.)—C. Maclean (London)
The Bach Clavicembalum and its reconstruction (G.)—O. Fleischer (Berlin)
The Fitzwilliam Virginal Book (G.)—M. Seiffert (Berlin).

PART 7 APRIL, 1900

Music in Rome (G.)—F. Spiro (Rome)
Concerts in Paris (F.)—M. Chassang (Paris)

PART 8. MAY. 1900

Vocal Teaching (F.)—Lydia Torrigi Heiroth (Geneva)
Concerts in Vienna (G.)—R. Hirschfeld (Vienna)
Popular concerts and Music over-production (G.)—G. Münzer (Breslau)
The promoters of Church music in Moscow (G.)—N. Findeisen (Petersburg)
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PART 9. JUNE. 1900.

Saint-Saëns as author (F.)—A. Pougin (Paris)
Music in Paris (F.)—M. Chassang (Paris)
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Vocal teaching in grammar schools (G.)—R. Starke (Breslau)

PART 10. JULY, 1900.

J. P. E. Hartmann (G.)—W. Behrend (Copenhagen)
Music in Spain (F.)—E. L. Chavarri (Madrid).
Popular Concerts (G.)—S. Levysohn (Copenhagen).
36th Congress of the Allgem. Deut. Musik Verein (G.)—H. Goldschmidt (Berlin).
Chamber-music Festival in Stuttgart (G.)—K. Grunsky (Stuttgart)
Handel Festival in Bonn (G.)—M. Seiffert (Berlin).

PART 11. AUGUST, 1900.

Man's Alto in English Music (E.)—A. H. D. Prendergast (London).
Musical Congress at the Paris Exhibition (F.)—M. Chassang(Paris).
Toonkunstenaars Vereeniging Festival (G.)—W. N. F. Sibmacher-Zijnen (Rotterdam).
Music Festival at Zürich (G.)—K. Nef (Basel)
The 14th Silesian Music Festival (G.)—T. Rothkegel (Neisse).
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Bruckner's Mass in F minor (G.)—K. Grunsky (Stuttgart)

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The Congress of Musical History (F.)—J.-G. Prod'homme (Paris).
On Musical Magazine Literature (G.)—O. G. Sonneck (New York)

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Concerts in Russia (G.)—N. Findeisen (Petersburg).
Music in Stockholm (G.)—A. Lindgren (Stockholm).
Music in Spain (F.)—E. L. Chavarri—(Madrid).
The Sonata, ancient and modern (F.)—E. Pierret (Paris).
Catalogue of Handel performances, 1899-1900 (G.)—E. Krause (Hamburg).

PART 2. NOVEMBER, 1900

The English Provincial Festivals (E.)—J. A. Fuller Maitland (London)
Music at the Paris Exhibition (F.)—M. Chassang (Paris).
Leipzig Symphony Concerts, 1899-1900 (G.)—D. Schultz (Leipzig).
Mental overstraining in children (G.)—C. H. Richter (Geneva).

* Fully indexed

PART 3. DECEMBER, 1900

Tre Giorni son che Nina (E.)—W. Barclay Squire (London).
A collection of National Hymns (G.)—H. Abert (Berlin).
Robert Radecke (G.)—G. Beckmann (Essen).

PART 4. JANUARY, 1901.

On musical scholastic institutions (G.)—K. Navratil (Vienna).
The musical season in Paris (F.)—L. Dauriac (Paris).

PART 5. FEBRUARY, 1901.

The composer of the Marseillaise (F.)—J. Tiersot (Paris).
Italian or Native language? (G.)—O. G. Sonneck (New York).
Music in Spain (F.)—E. L. Chavarri (Madrid).
Musical life in Rome (G.)—F. Spiro (Rome).
Concerts in Paris (F.)—M. Chassang (Paris).

PART 6. MARCH, 1901.

A simplification of accidentals and key signatures (G.)—G. Capellen (Osnabrück).
Giuseppe Verdi (G.)—H. Abert (Berlin).

PART 7. APRIL, 1901.

Music as an impression (G.)—F. Rosenthal (Vienna).
Registration of Music Teachers in England (E.)—J. W. Sidebotham (Manchester).

PART 8. MAY, 1901.

Notice regarding Supplement Volumes of the I.M.G.
Old music in old garments (G.)—O. G. Sonneck (New York).
An Elegy on Henry Purcell (E.)—W. Barclay Squire (London).
Sir John Stainer (E.)—C. Maclean (London).
Supplement to simplification of accidentals, &c. (G.)—G. Capellen (Osnabrück).

PART 9. JUNE, 1901.

Hans von Bülow's Nirvâna (E.)—C. A. Barry (London).
Music and the teaching profession (G.)—O. Fleischer (Berlin).
Scores (G.)—H. H. Stephani (Leipzig).

PART 10. JULY, 1901.

Woman and the musical education of the young (G.)—Louise Müller (Darmstadt).
Stanford's New Opera (E.)—C. Maclean (London).
Theatres and Concerts in Paris (F.)—M. Chassang (Paris).
37th Congress of the Allgem. Deut. Musik-Verein (G.)—F. Stein (Heidelberg).

PART 11. AUGUST, 1901.

Musical life in Russia (G.)—N. Findelsen (Petersburg).
Bach Festival at Bethlehem, Pennsylvania (E.)—A. A. Stanley (Ann Arbor).
Music in London (E.)—C. Maclean (London).

PART 12. SEPTEMBER, 1901.

Bayreuth Impressions (G.)—M. Koch (Breslau).
The London Opera Season (E.)—J. A. Fuller Maitland (London).
A Traveller's note from Delphi (E.)—C. F. Abdy-Williams (London).

Total—462 pages.*

* Fully indexed.

THIRD YEAR

PART 1. OCTOBER, 1901.

Wagner Documents (G.)—L. Schmidt (Dresden)
Wagner's letter to Stahr (G.)—G. Münzer (Breslau).
Music in Rome, 1901 (G.)—F. Spiro (Rome)
Music in Stockholm, 1901 (G.)—A. Lindgren (Stockholm).

PART 2. NOVEMBER, 1901.

Fr. Chrysander (G.)—O. Fleischer (Berlin)
The Leeds Festival (E.)—J. A. Fuller Maitland (London).
Stamitz' letter to Frederick-William II. (G.)—G. Thouret (Berlin).

PART 3. DECEMBER, 1901

Music in Gymnasium Schools (G.)—H. Abert (Berlin)
Weber correspondence (G.)—L. Schmidt (Dresden).
Orchestral and Choral Balance (E.)—J. E. Borland (London)

PART 4. JANUARY, 1902.

Music in North of England (E.)—Ernest Newman (Liverpool)
Bruneau's Ouragan (F.)—L. Dauriac (Paris).
Berlin Mozart Festival (G.)—G. Thouret (Berlin).
Method of Madame Luise Krause (G.)—L. Riemann (Essen).

PART 5. FEBRUARY, 1902

Hermann Goetz (G.)—E. Istel (Munich)
Miss Anna Robena Laidlaw (G.)—F. G. Jansen (Hanover)
Flosculi Diurnorum (E.)—C. Maclean (London)
Music in Paris (F.)—M. Chassang (Paris)

PART 6. MARCH, 1902.

Yorkshire Choral Singing (E.)—H. Thompson (Leeds)
The "Meistersinger" in Rome (G.)—F. Spiro (Rome)
Pedrell's Los Pirineos (F.)—F. S. Bravo (Barcelona)

PART 7. APRIL, 1902

Hasse on Mozart (E.)—H. Kretzschmar (Leipzig)
On the Pizzicato (G.)—A. Rombro Spiro (Rome)
Recent Novelties in London (E.)—F. Gilbert Webb (London)
Concerts throughout France (F.)—J.-G. Prod'homme (Paris).

PART 8. MAY, 1902.

Tonality in Piano-Teaching (G.)—Tony Bandmann (Hamburg)
Three Forgotten Waltzes by Schubert (E.)—W. Barclay Squire (London)
Julius Hey's Vocal Method (E.)—F. X. Arens (New York)

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Four New Bach-letters (G.)—F. Schmidt (Sangerhausen).
Music in Paris (F.)—L. Dauriac (Paris).

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The Symphony in France (F.)—J. Tiersot (Paris)

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Bonaparte's Music Policy (G.)—O. Fleischer (Berlin)
Regarding Musical Criticism (E.)—F. Gilbert Webb (London)
A new letter of Berlioz (F.)—J.-G. Prod'homme (Paris).

PART 12. SEPTEMBER 1902.

A Topographical Dictionary of Music History (F.)—J. G. Prod'homme (Paris)
Bayreuth, 1902 (G.)—A. Mayer Reinach (Berlin).
The London Opera Season (E.)—W. Barclay Squire (London).
"Princess Osra" and "Der Wald" (E.)—C. Maclean (London).

Total—512 pages *

FOURTH YEAR.

PART 1. OCTOBER, 1902

Pianoforte Touch, &c., on Marie Jaëll's system (G.)—Jeanne Bosch (Steeg)
A letter of Spontini's to Napoleon (G.)—E. Rychnovsky (Podersam).
Loudon novelties (E.)—Gilbert Webb (London).
Music in Russia, 1901-2 (G.)—Nic. Findeisen (Petersburg).

PART 2. NOVEMBER, 1902.

Sheffield Musical Festival (G.)—O. Lessmann (Charlottenburg).
The Juggler of Nôtre Dame (G.)—F. Pfohl (Hamburg)
Max Schilling's "Pfeifertag" (G.)—A. Mayer Reinach (Berlin).
Leo Blech's "Das war ich" (G.)—R. von Wistinghausen (Dresden)
Mozart's "Zaide" (G.)—R. Hirschfeld (Vienna)
English Opera at Covent Garden (E.)—Vernon Blackburn (London)

PART 3. DECEMBER, 1902

Emile Zola and Music (F.)—J. G. Prod'homme (Paris).
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Development of Chamber Music (G.)—M. E. Sachs (Munich)
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PART 5. FEBRUARY, 1903

Herbert Spencer as Musician (E.)—Ernest Newman (Liverpool).
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Litzmann's "Clara Schumann" (G.)—H. Abert (Halle).
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Bruneau's "Messidor" (G.)—E. Istel (Munich)
Music in Buda-Pesth (G.)—V. von Herzfeld (Buda-Pesth)

PART 6. MARCH, 1903.

Photophonography (G.)—O. Fleischer (Berlin).
Solenière's "Notules musicales" (G.)—C. H. Richter (Geneva)
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Massenet's "Grisélidis" (G.)—W. Andreae (Zurich)
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PART 7.—APRIL 1903

The Art of Hearing (G.)—W. Nagel (Darmstadt)
An 18th Century Music-library at Basle (G.)—K. Nef (Basle)
Musical Concert Season in London (E.)—Alfred Kalisch (London).
Music in Paris (F.)—M. Chassang (Paris)

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PART 8 MAY, 1903

The Resuscitation of the Church Modes (G.)—M. E. Sachs (Munich).
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Hugo Wolf's Songs (G.)—R. Hirschfeld (Vienna).
Borodin's "Prince Igor" (E.)—Rosa Newmarch (London).
Wolf-Ferrari's "La Vita Nuova" (G.)—E. Istel (Munich).

PART 9 JUNE, 1903

A Copy-Book of Simrock's Firm (G.)—A. C. Kalischer (Berlin).
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Chamber Music in London (E.)—W. W. Cobbett (London).

PART 10 JULY, 1903

Bülowiana (G.)—G. R. Kruse (Berlin).
Indigenous Music Exhibitions (G.)—A. Werner (Bitterfeld).
Music in Paris (F.)—L. Dauriac (Paris).
39th Festival of the "General German Music-Society" (G.)—F. Götzinger (Basle).

PART 11, AUGUST, 1903

Harmony and Simplification (G.)—Fritz Volbach (Mayence).
Ernest Legouvé and Music (F.)—J.-G. Prod'homme (Paris).
Hubert Parry's "War and Peace" (E.)—Ch. Maclean (London).
Two new music-dramatic works (G.)—C. Goos (Carlsruhe).

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SAMMELBÄNDE (Quarterly Magazine).

FIRST YEAR.

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A chapter on comparative music-science (G.)—O. Fleischer (Berlin).
Armenian Church Music (G.)—K. Keworkian (Etschmiadzin).
The music theory of Johannes de Grocheo (G.)—J. Wolf (Berlin).
On Handel's clavier-works (G.)—M. Seiffert (Berlin).
Music-guild in Friedland (G.)—M. Seiffert (Berlin).
Dufay and his time (G.)—J. Wolf (Berlin).

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On Schütz (G.)—M. Seiffert (Berlin).
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W. F. Bach's summons to Darmstadt (G.)—W. Nagel (Darmstadt).
Beethoven's Rondo in B flat (G.)—E. Mandyczewski (Vienna).
On Programme music (G.)—R. Hohenemser (Frankfort).
An unknown music collection (G.)—H. Botstiber (Vienna).

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PART 3. APRIL—JUNE, 1900.

The new Aristoxenus-find at Oxyrbynchos (G.)—H. Abert (Berlin).
Studies on Icelandic Music (G.)—A. Hammerich (Copenhagen).
Castilian musical folk-lore of the 16th century (F.)—F. Pedrell (Madrid).
Samuel and Gottfried Scheidt (G.)—A. Werner (Bitterfeld).
Graun as Opera-composer (G.)—A. Mayer-Reinach (Strasburg).
J. V. Meder's Stammbuch (G.)—J. Bolte (Berlin).

PART 4. JULY—SEPTEMBER, 1900.

History of Solmisation (G.)—G. Lange (Breslau).
Purcell and Nicola Matteis (E.)—J. Frederick Bridge.
Mestwirbi, the Troubadour of the Caucasus (G.)—B. Korganow (Tiflis).
Revival of musical life in Italy (G.)—O. G. Sonneck (New York).
Bach's Matthew Passion and the Protestant faith (G.)—F. Bachmann (Berlin).
Six Trent Codices (G.)—J. Wolf (Berlin).
Notes on Spontini and Paganini (G.)—L. Geiger (Berlin).

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PART 1. OCTOBER—DECEMBER, 1900.

Dunstable and the various settings of "O Rosa Bella" (E.)—Cecie Stainer (London).
Italian opera orchestra in the 17th Century (G.)—H. Goldschmidt (Berlin).
M. Weckmann and the Musical College at Hamburg (G.)—M. Seiffert (Berlin).
The old Bohemian Czernohorsky School (G.)—O. Schmidt (Dresden).
The Five-four bar in popular Finnish music (F.)—I. Krohn (Helsingfors).
History of Music in Finland (G.)—H. Pudor (Berlin).
From an old library (G.)—G. Tischer and K. Burchard (Berlin).
Trent Codices (G.)—G. Adler and O. Koller (Vienna), and J. Wolf (Berlin).

PART 2. JANUARY—MARCH, 1901.

Origin of the organs of the ancients (E.)—Kathleen Schlesinger (London).
The Elche Festival (F.)—F. Pedrell (Madrid).
Three Clavier-compositions wrongly ascribed to Bach (G.)—R. Buchmayer (Dresden).
Music in Russia in the first half of the 19th Century (G.)—N. Findeisen (Petersburg).
Settings of the Stabat Mater (E.)—C. B. Edgar (London).
The new "Chorordnung" of R. v. Liliencron (G.)—F. M. Rendtorff (Preetz).
The Trent Codices (G.)—G. Adler (Vienna).

PART 3. APRIL—JUNE, 1901.

An unprinted Letter by Psellus (born 1018) on music (G.)—H. Abert (Berlin).
Notes on an undescribed Collection of English 15th Century Music (E.)—W. Barclay Squire (London).
J. R. Ahle, a bio-bibliographical Sketch (G.)—J. Wolf (Berlin).
Johann Christian Bach (G.)—M. Schwarz (Berlin).
J. P. E. Hartmann (G.)—A. Hammerich (Copenhagen). Translation from the Danish by L. Freifrau von Liliencron.
Suggestions towards a Theory of Harmonic Equivalents (E.)—W. H. Hadow (Oxford).

* Fully indexed.

PART 4. JULY—SEPTEMBER, 1901.

On the Chinese Musical System (F.)—A. Dechevrens (Paris).
Swedish School-songs in the Middle Ages, &c. (G.)—T. Norlind (Lund).
Some documents regarding the Music of the Grande Écurie du Roi (F.)—J. Écorcheville (Paris)
A set of Bach's proof-sheets (E.)—J. A. Fuller Maitland (London).
A Bach-Conjecture (G.)—F. Spiro (Rome).
Gottsched and J. A. Scheibe (G.)—E. Reichel (Berlin).
A "Bet-Ruf" of the Swiss Alps (G.)—A. Schering (Leipzig).
Polish Dances (G.)—F. Starczewski (Warsaw).
The Old Hall Manuscript (E.)—W. Barclay Squire (London).

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THIRD YEAR.

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Absolute Pitch-Sense (G.)—O. Abraham (Berlin).
The Bockshorn-Böddecker case (G.)—J. Sittard (Hamburg).
Addit. Accomps. to "Acis" (E.)—N. Kilburn (Bishop Auckland).
Origin of "Hail Columbia"—O. G. Sonneck (New York).
The six-four chord (G.)—G. Capellen (Osnabrück).

PART 2. JANUARY—MARCH, 1902.

Comparative Study of the Lied (G.)—O. Fleischer (Berlin).
Music of the Faroes (G.)—Hjalmar Thuren (Copenhagen).
First Century of German Opera (G.)—H. Kretzschmar (Leipzig).
Mass Catalogues in Music History (G.)—K. A. Gohler (Zwickau).
Art Songs of Russia (E.)—Rosa Newmarch (London).

PART 3. APRIL—JUNE, 1902.

On Æsthetic Judgment (G.)—A. Reichel (Bern).
Modern Greek Folksongs (G.)—L. Burchner (Munich).
Ugrian Tribe Melodies (G.)—I. Krohn (Helsingfors).
Magnus Aurelius Cassiodorus (G.)—H. Ahert (Berlin).
Warwick Glass Windows (E.)—C. F. Hardy (London).
Willaert's Pater Noster (I.)—O. Chilesotti (Bassano).
Kuhnau's Life (G.)—R. Münnich (Berlin).
Sarti in Copenhagen (G.)—C. Thrane (Copenhagen).
Life-work of Arthur Sullivan (E.)—Alexander Mackenzie (London).

PART 4. JULY—SEPTEMBER, 1902.

Snoeck Instrument Collection (G.)—O. Fleischer (Berlin).
Arabic Persian and c. scales (I.)—O. Chilesotti (Bassano).
Florence and 14th century music (G.)—J. Wolf (Berlin).
Luther and the Protestant Liturgy (G.)—J. Wolf (Berlin).
Bach's non-observance of some fixed rules (E.)—H. W. Nicholl (London).
Pierre de Jélyotte (F.)—J. G. Prod'homme (Paris).
The Chromatic Tone-system (G.)—M. Arend (Leipzig).
Ugrian Tribe Melodies, suppl. (G.)—I. Krohn (Helsingfors).

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* Fully indexed

FOURTH YEAR

Part 1 October—December, 1902

What is the best order in which to arrange folk-tunes (melodially) in folk-tune lexicons? (G.)—O. Koeller (Vienna)
The Part-music of the 14th century (G.)—F. Ludwig (Potsdam)
Ronsard and the music of his time (F.)—J. Tiersot (Paris)
The Operas of Alessandro Scarlatti (E.)—E. J. Dent (Cambridge).
Mily Balakireff (E.)—Rosa Newmarch (London)
The Roumanian Folk-song (G.)—Otto Wagner (Galatz)
On the 48th volume of Chrysander's Handel edition (G.)—A. Einstein (Munich).
Defective Part-writing (?) in Bach (G.)—S. de Lange (Stuttgart)

Part 2 January—March, 1903.

The instrumental pieces in "Orfeo" (G.)—A. Heuss (Leipzig).
Purcell's Music for the Funeral of Mary II (E.)—W. Barclay Squire (London)
A Bach investigation (G.)—A. Schering (Leipzig).
Spontini at the Berlin Opera (G.)—W. Altman (Friedenau).
Slovak, Greek, Wallachian, and Turkish Dance-tunes, &c. (G.)—O. Heilig (Ettlingen)
The Tone system of the Japanese (G.)—O. Abraham and E. M. von Hornbostel (Berlin)
Music Theory of Joannes de Grocheo (G.)—H. Müller (Paderborn).
A Rejoinder (E.)—H. Wadham Nicholl (London)

Part 3. April—June, 1903.

Dorian and Phrygian (E.)—A. J. Hipkins (London).
The Intust Francesco da Milano (I.)—O. Chilesotti (Vicenza).
The Venetian Opera Symphonies (G.)—A. Heuss (Leipzig)
C. H. Graun's "Battaglia del Re di Prussia" (G.)—A. Mayer-Reinach (Berlin).
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